

MANUFACTURERS RECORD

A Weekly Newspaper Devoted to the Industrial, Financial, Railroad,
Mining, Contracting, Engineering, Building, and General
Business Interests of the South and Southwest

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What Shall Your Christmas Be?

As on Judea's plains the shepherds, tending their flocks heard with the heart as well as with the ear, the Heavenly music of the Angelic Choir, singing of the birth of man's Redeemer:

Glory to God in the highest,
And on earth peace, good will to men!

It is meet that we should catch the music that still swells from angel voices, and at this hallowed period give glory to God in the highest.

Unless, however, we hear with the heart and hasten with the feet and the hands and brain to put our emotions into effect as did the shepherds of the first Christmas night, we shall gain no new inspiration from this sacred day.

As we give to God glory for a Saviour's birth, and seek to express the joy of the day by gifts to loved ones, let us remember that we must carry the message of love to the weary soul, to the tired body, to those who hunger in soul as in body, to those imprisoned by environment, by sickness or poverty, to the aged tottering on the brink of the grave, and to the children who know only suffering and want.

The day will be poorly spent by the individual and the nation unless we hear the Voice which says:

"For I was an hungered and ye gave me meat; I was thirsty and ye gave me drink; I was a stranger, and ye took me in; naked and ye clothed me; I was sick and ye visited me; I was in prison and ye came unto me. . . . Inasmuch as ye have done it unto one of the least of these my brethren, ye have done it unto me."

What shall your Christmas be?

BALTIMORE, DECEMBER 23, 1915



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MANUFACTURERS RECORD

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CENSUS REPORT ON MANUFACTURING.

INDUSTRIAL development of cities and towns in the United States are given in census reports issued from day to day. Among those recently published and not previously mentioned in the MANUFACTURERS RECORD are the following Southern cities:

Jacksonville, Fla.: Capital invested in manufacturing in 1914 was \$13,492,000, a gain of \$6,424,000, or 9.9 per cent. over \$7,068,000 in 1909. During the same period the value of products in 1914 was \$10,235,000, and in 1909 \$6,722,000, the increase being \$3,513,000, or 52.3 per cent.

Alexandria, Va.: The summary shows a slight decrease for Alexandria, largely due to the fact that a number of establishments which were reported in 1909 have suspended operations since that time, the amount reported invested in factory enterprises last year being \$4,573,000.

Tulsa, Okla.: Tulsa's increase in capital invested in manufacturing for 1914 over 1909 was 178.2 per cent., the amount for last year being \$3,208,000 and for 1909 \$1,530,000, a gain of \$2,055,000. The value of its products in 1914 was \$3,872,000, as against \$1,563,000 in 1909, an increase of \$2,309,000, or 147.7 per cent.

Tampa, Fla.: The capital invested, as reported in 1914, was \$9,858,000, and in 1909 \$9,365,000, the increase being \$493,000, or 5.3 per cent., while at the same time the value of its 1914 manufactured product was \$14,039,000, or \$176,000 more than in 1909.

AGRICULTURE'S AMAZING ADVANCE AS THE FOUNDATION FOR INDUSTRIAL AND RAILROAD ACTIVITIES.

BASED on yield and prices prevailing, it is quite probable, as forecasted some months ago in the MANUFACTURERS RECORD, that the aggregate value of the agricultural products of the United States for the present year will be at least \$11,000,000,000, far surpassing the total of any preceding year.

The report of the United States Department of Agriculture giving the total production of leading crops for the year, as compared with 1914, presents many very interesting facts. In some respects, however, the estimated value of these crops, based on

prices paid to the farmers on December 1, will probably fall much below the total. The cotton crop, for instance, is estimated at 11,161,000 bales, at an average valuation of 11.2 per cent., giving a total for the crop of \$602,393,000. This, however, does not at all take into account the value of the cottonseed and linters, which, this year, will probably exceed \$200,000,000, making the total cotton crop worth more than \$800,000,000, instead of \$602,000,000 as given in these Government figures.

The corn crop is reported on a basis of an average valuation of 57.5 cents per bushel. This, we believe, will prove entirely too low as the average value of the crop as sold by the farmers during the crop year. At present corn is selling very much above these figures in a large part of the country. Of course, the Department of Agriculture in its report calls attention to the fact that these estimates are based on prices received by farmers on December 1. It does not in this report undertake to give the final total value for the year.

The importance of these great crops will be measured not only by the vast sum received by the farmers, which will find its way into every channel of trade, but it will also be reflected in the enormous increase in the volume of railroad traffic. From this point of view it is interesting to compare the figures of production for 1915 and 1914, as follows:

| Crop. | 1915. | 1914. | Increase. |
|---------------------|---------------|---------------|---------------|
| Corn | 3,064,535,000 | 2,672,804,000 | 381,731,000 |
| Winter wheat..... | 655,045,000 | 654,990,000 | *29,945,000 |
| Spring wheat..... | 356,460,000 | 206,027,000 | 150,433,000 |
| All wheat..... | 1,011,905,000 | 891,017,000 | 120,488,000 |
| Oats | 1,540,362,000 | 1,141,060,000 | 399,302,000 |
| Barley | 237,000,000 | 194,953,000 | 42,056,000 |
| Rye | 49,190,000 | 42,779,000 | 6,411,000 |
| Buckwheat | 15,769,000 | 16,881,000 | *1,112,000 |
| Flaxseed | 13,845,000 | 13,749,000 | 96,000 |
| Rice | 28,947,000 | 23,649,000 | 5,298,000 |
| Potatoes | 359,103,000 | 409,921,000 | *50,818,000 |
| Sweet potatoes..... | 74,295,000 | 56,574,000 | 17,721,000 |
| | 7,396,065,000 | 6,354,404,000 | 1,041,661,000 |
| *Decrease. | | | |
| Gross increase..... | | 1,123,536,000 | |
| Decrease | | 81,875,000 | |
| Net increase..... | | | 1,041,661,000 |

In this total, measured in bushels, of grain and potatoes the aggregate is 7,396,065,000 bushels for this year, or a net increase, after allowing for the decrease in winter wheat, buckwheat and potatoes, of over 1,000,000,000 bushels. This increase alone is more than this year's total record-breaking wheat crop, and exceeds by 150,000,000 bushels the total wheat crop of 1914. So far as traffic is concerned, we might practically have wiped out the entire wheat crop of this year and the aggregate production would then have been almost the same as that of last year. This is an amazing situation to contemplate.

The increase in grain is due in part to increased acreage, and in part to the better yield. The average corn yield for the year was more than two bushels per acre in excess of the average for the last five years. The average wheat yield was 2.3 bushels more than the average for the last five years, although it was only .3 of a bushel in excess of the average for 1914.

The increased wheat yield per acre during 1915 and 1914 as compared with the five-year average is an interesting indication of the possibilities of larger yields per acre; but this increase in 1915 was wholly in spring wheat, where there was a gain of 6.5 bushels over the average yield in the preceding year, while in winter wheat there was a decrease of 2.8 bushels as compared with 1914.

The yield of oats showed a very heavy increase

over the preceding year, as well as over the five-year period, as did a number of other crops.

In addition to the increasing grain production, amounting to over 1,000,000,000 bushels, there was a gain in the hay crop of over 15,000,000 tons compared with 1914, and 19,000,000 tons compared with the five-year average. This increased hay crop added to the wealth of the farmers \$133,000,000 over the hay crop of 1914.

In tobacco there was a small increase in yield, but a decrease of \$5,000,000 in value.

The cotton crop showed a decrease in output, but a very large increase, as already stated, in value as compared with 1914.

Sugar beets showed a gain of 870,000 tons over 1914, and a gain of \$5,400,000 in value. There was a small decrease in cranberries, an unimportant crop in the aggregate, and a small decrease in the production of apples, but a slight gain in value; and a small decrease in beans, but an increase of \$2,600,000 in value, due to higher prices.

For some years we have now had a rapidly rising value of agricultural output. Year after year the quantity has been increasing, and as a whole the average of prices has been steadily rising. As late as 1890 the total value of farm products was given by the census at \$2,460,000,000; and in 1900, \$4,717,000,000. These figures did not include some of the products now reported by the Agricultural Department in its statement of recent years, but the figures which will carry this year's output to at least \$11,000,000,000 in value strikingly illustrate the amazing material advancement of the agricultural interests of this country. This truly marvelous crop production furnishes a solid foundation for vast industrial and railroad activities.

TYPICAL OF THE SPIRIT OF SOUTHERN MILL OWNERS.

INTERESTING and noteworthy, though nevertheless typical of the spirit of many of the mill towns of the South, is the new \$50,000 Y. M. C. A. building to be constructed by the Riverside & Dan River Cotton Mills Co., Inc., for the benefit of that company's 6,000 employees of the plant at Schoolfield, a suburb of Danville, Va. At both the Schoolfield and Riverside plants of this \$10,000,000 company welfare work has been characteristic of the company's activities for a number of years. Kindergartens, day nurseries and extra school facilities are included in the features of welfare work, the scope of which efforts are indicated by the fact that the company annually spends \$10,000 for this work alone.

The Y. M. C. A. building, now under construction and to be completed by May, 1916, has been carefully planned with reference to providing the most complete facilities such improvements anywhere afford. It will be spacious and fully equipped with various assembly-rooms, gymnasium, apparatus, etc.

An interesting description of the new building is given in the news columns of this issue of the MANUFACTURERS RECORD, accompanied by an illustration of the immense Schoolfield Mills. It is worthy of perusal by all students of Southern cotton-mill conditions, and is especially commended to the attention of the considerable number of people outside the South who are lacking in complete information as to what Southern mill owners are doing in the way of welfare work for their employees.

Iron Ores of the Country: Production and Shipment: Munition Making Chemical and Hydro-Electric Developments and Their Relation to Explosives

By DR. DAVID T. DAY, Washington.

[Dr. David T. Day, for many years one of the foremost scientific authorities of the United States, deals in the following article with the iron ore and steel situation of the country and with chemical and hydro-electric developments in relation to explosives. On the following page, published in connection with this article, is a map, condensed from a very elaborate and detail one prepared for the Manufacturers Record by Mr. E. F. Burchard of the United States Geological Survey, on which are indicated leading iron-ore regions east of the Mississippi River, the ore output by States and the amount of ore passing through the Sault Ste. Marie Canal to the furnaces of the East and West. The facts presented are in accordance with the statistics heretofore given in the Manufacturers Record, but as shown on this map will command renewed attention from the intelligent people of the whole country.—Editor Manufacturers Record.]

A traveler on any trunk line in the Eastern States cannot fail to note the long trains of scrap iron, pig iron, steel billets and spiegel iron continually moving from all directions toward the steel mills located in a narrow strip of country near the Atlantic coast. Much of the pig iron, and even the steel billets, are so rusty as to give evidence of a long sojourn on the stock pile. It is said that one stock pile near Easton, Pa., containing 80,000 tons, was recently entirely cleared away in less than a week. It is evident that every source of scrap iron, especially wrought iron, is being requisitioned for the present demand.

The total amount of scrap iron thus obtainable for an emergency is usually quite an asset, especially in the East. The fact that it is now being rapidly exhausted suggests a look as to what other strictly internal supplies of iron can be relied upon at all times. The look proves embarrassing. As has already been clearly pointed out in these columns, 85 per cent. of our supply of iron ore comes from the Lake Superior region, near the Canadian boundary, and, being above the average richness, it furnishes a still larger percentage of the pig iron and actually 95 per cent. of the entire steel output of the United States, as shown by the statistics of the United States Geological Survey collected by Mr. E. F. Burchard, the statistician on that subject. Mr. Burchard, at the request of the MANUFACTURERS RECORD, has prepared a map of the United States showing the routes which this ore is obliged to traverse from the mines to the points where it is consumed. The map also locates the iron ore deposits of this country east of the Mississippi, and shows the total iron ore production of each State. Going farther than this, the map shows the chief area fed by this Lake Superior ore, where nearly all of our munitions of war are manufactured.

The points brought out by this clear and convincing map are altogether too evident. In the first place, over 91 per cent. of the entire Lake product goes through the Sault Ste. Marie Canal, and of this over two-thirds went last year through the Canadian locks. Only one-third, or slightly less, even remained actually in the United States on its way to the consumer. Any damages to these locks would embarrass the whole iron world. The people of the United States are not so accustomed to studying the ways and means of the vandal as recent experiences have shown become operative in time of war. But it is evident that all such opportunities have become thoroughly familiar to other nationalists. They, therefore, deserve careful consideration at home.

Fortunately, further study of this interesting map shows that, granted time for sufficient preparation, the United States is in no way dependent upon these border ores.

As amply shown in this journal a few years ago by Dr. C. W. Hayes, then chief geologist of the U. S. Geological Survey, the supply of iron ores of the present

merchantable grade, and located in the South and the Southern Middle States, are sufficient for the entire country's needs for many years. They lack only the phenomenally low transportation rates characteristic of the Great Lakes. But study of Ramage's classic reports on the possibilities of our inland waterways shows that this local advantage may easily be made more general if our obvious canal routes are intelligently developed.

It must not be thought that the obvious advantage of placing an additional supply of steel plants and munition factories behind the protecting front of the Alleghenies for purposes of national defense is the only serious reason for such development.

Our industrial concerns need such protection as greatly as the nation as a whole. But in the peaceful development of internal industries the saving in freights by the development of local industries is the naturally beneficent result of the fairer transportation laws which our Interstate Commerce Commission is developing. The important effect of telephone, telegraph and wireless telegraphy in centralizing manufacturing industries has been well pointed out by Perkins. But beyond doubt this has been overdone.

This is seen by considering the fact that where iron and steel industries go, all inter-related industries develop. It is just as possible to produce concentration of industries in new centers by the mere leaven of steel works. The folly of further Eastern concentration is commercially evident. It is better business to make centers where they will be needed in the future. For example, the greatest manufacturing asset of the Rocky Mountain country is the steel development of Southern Colorado. There is absolutely no factor so self-sufficient as the iron industry in developing all kinds of industrial activity. The chamber of commerce that can induce the installation of one large plant for general steel products has a nucleus which, properly worked up, will bring everything else to the city selected.

If we turn for a moment to the logical results of increased steel production in the Southern and Middle Western States, it is proper to make repeated reference to certain chemical industries for which the South offers exceptional resources and for which steel development will prove a developmental feature.

By extending it to iron ores which are now valueless because containing too much lime it might be easy to find a solution of the South's potash problem by utilizing the extremely interesting process of McElroy and Spencer, by which the excess of lime in the ores would be neutralized by the use of potash feldspars instead of such chance silica as might be otherwise available. Under this process the potash is volatilized and collected as fume from the blast furnace stacks, either as cyanide or carbonate, according to the method of working. We recognize that the problem of obtaining potash from feldspars stands at the present time in the uncertain zone between success and failure. The chances are that

eventually this source of potash will be availed of, but if the potash can thus be obtained as a by-product of steel manufacture its success becomes immediate.

The South rules the world's sulphur market, but ships far too much away which might be so easily converted into sulphuric acid. It is suggestive to think that, even in roasting Virginia pyrite for making sulphuric acid, the roasted ore is valuable not only for iron, but for copper, and this roasted ore is suitable for one of the very catalytic agents used in oxidizing the sulphur dioxide to the sulphuric acid stage. Again, the last year has seen the introduction of special cast irons for chemical evaporating dishes which have proved especially suitable for concentrating sulphuric acid. Again, the sulphuric acid is in turn a handmaid for the iron industry in steel pickling processes, galvanizing, etc.

What is true of sulphuric acid is equally so of hydrochloric, nitric and other acids which become possible of manufacture where sulphuric acid leads the way.

At the present time sulphuric acid is greatly needed in the manufacture of high explosives for military purposes. The great coke-producing centers of the South were quick to see the advantage of installing by-product ovens whereby the ammonia might be saved for fertilizers—another feature involving the use of sulphuric acid. They also save the light oils from the coal tar; and, in fact, this has been a great feature in the ability of the United States to supply the high explosives needed for the army and navy. A ton of ordinary coking coal may be expected to yield half of one per cent.—say 0.7 gallon of benzol and toluol—which are not only the chief bases for the aniline dye industry, but also for explosives. These explosives are made from benzol by first converting it by the use of fuming sulphuric acid into benzol sulphonic acid; this is neutralized, fused with caustic and yields phenol (carbolic acid). This, by treatment with a mixture nitric and sulphuric acids, furnishes picric acid, a substance of greater explosive energy than nitroglycerine. Similarly, toluol (or toluene, the same substance) is treated with a mixture of sulphuric and nitric acids and is converted into mono-nitro-toluol, and by further and more energetic treatment with the same acids this product is made into tri-nitro-toluol, a powder which may be transported much more safely than nitroglycerine, dynamite or even picric acid and yet is a greater explosive than either.

It is well known that the supply of the benzol and toluol from coal tar has been nowhere near the recent demand. In fact, in time of peace, only a few years ago it was necessary to import toluol by the shipload to satisfy the demand then existing.

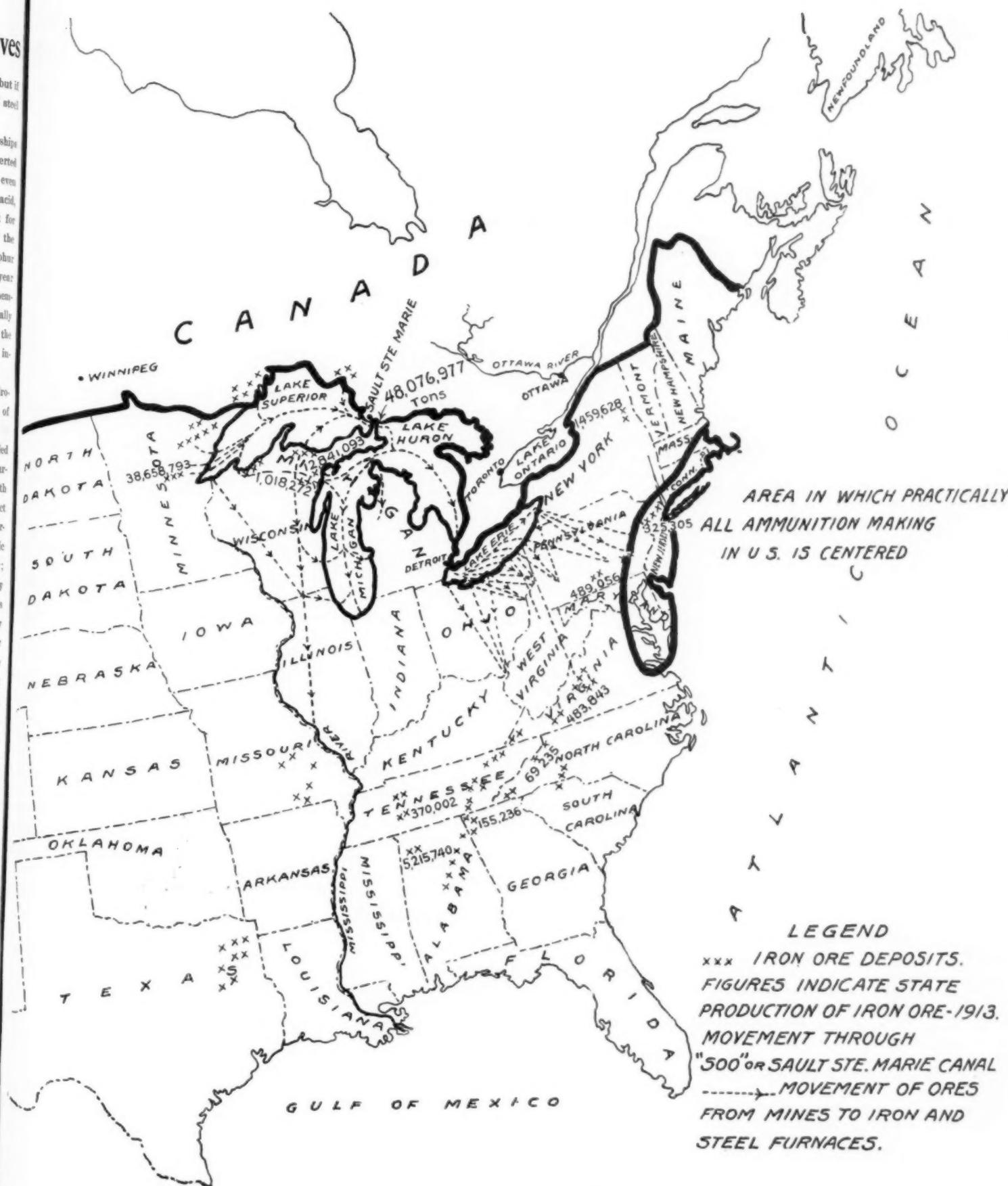
It was hoped at that time that benzol and toluol might be found as constituents of one or another variety of crude petroleum in the United States, just as they are both found in Roumanian crude petroleum; but a careful search over all parts of the country failed to reveal more than mere traces, of no value. This being the case, the incalculable value may be appreciated of the development by Dr. W. F. Rittman, a chemist in the National Bureau of Mines, of a process by which any desired quantity of both benzol and toluol could be produced from any variety of petroleum or from any petroleum residue or from shale oils.

It must be clearly understood that this is not a process of extraction of these substances from oil, but actual conversion of petroleum into them.

By this new process oils are made to yield more than ten times as much as can be obtained from coal. The process is not costly as to apparatus and

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is practically continuous in its action. By it the Bureau of Mines has made this country absolutely independent as to an unlimited supply of high explosives, so far as the basic materials, benzol and toluol, are concerned, and, by the fact that this process was developed by the Bureau's work, it is free to the public under proper license from the Bureau of Mines, and cannot become a monopoly.

By this process, it is understood, considerable supplies of benzol and toluol are now being made in Pittsburgh, although the process was only a laboratory experiment last February.

It is particularly easy to apply it to the residues of

the oils of the Gulf or Caddo regions; and with the sulphuric acid so easily made there and the nitric acid which sulphuric acid would aid in producing (and it should be remembered that nitric acid is now being made in Germany from the air), picric acid and trinitrotoluol—"T. N. T.," as it is called—can be produced with ease.

Given a sufficient supply of hydro-electric power for making nitric acid from the air, the United States would be entirely independent in every way in the making of explosives. Without adequate development of hydro-electric power for making

nitrates, the United States would still be dependent upon Chile, thousands of miles away. It is safe to say that every important country is taking steps to provide a nitrate supply because the comparatively early exhaustion of the Chilean supply.

Without extending this article to an unreasonable length, it is evident that the South has the best of the argument as the region for the preparing of the nation as to high explosives, and it has also abundant supplies of marketable iron ores, of which less than 8,000,000 tons were mined last year. Good policy points to its greater development.

THE BANKERS' RESPONSIBILITY FOR EXCESSIVE COTTON ACREAGE.

IN the interest of stability in all phases of the cotton industry, a correspondent of the MANUFACTURERS RECORD, writing from Atlanta, Ga., rather stoutly maintains that the disturbing influences of extra acreage operations, with overproduction and low prices, almost invariably succeeding years of high-priced cotton, may be entirely eliminated if the banking and commercial interests of the South and New York will really and earnestly address themselves to the proposition of securing a regular and constant acreage in cotton production. In the letter of Mr. Hastings, published elsewhere in this issue, it is maintained that the "bumper part of the bumper crops" could not be planted without an over-expansion of credit furnished by bankers and wholesale houses in years following a moderate crop, with resultant high prices. "This credit expansion," so Mr. Hastings declares, "enables supply merchants, country bankers and landlords to stake every trifling negro and white man in their particular neighborhood to go out and plant an extra twenty to thirty acres in cotton, and they will do it every chance they get. In the past this meant the planting of an extra four or five million acres that could not and would not be planted without this credit expansion."

This is a presentation of the case which is interesting and worthy of serious consideration by the banking interests of the country. Through familiarity with the sentiments and activities of those who were moving spirits in the recent bankers' convention in New Orleans, however, we are disposed to accord these men entire credit for not only sincerity of good motives, but intelligence in plan of action. Mr. Joe Hirsch of Corpus Christi, Tex., who is entitled to be called the moving spirit in the gathering of bankers in convention in New Orleans recently, is identified with very important banking interests at Corpus Christi, Tex. He has for years been attending meetings of bankers, farmers and others in Texas and elsewhere in the country, and has written for banking magazines and farmers' journals earnestly and continuously, urging diversification as the salvation of the Southern cotton farmer, and has vigorously maintained that the remedy for the one-crop and overproduction menace to the South lies in the hands of the banker. The central feature of this plan, as he has outlined it everywhere, is that the banker must see to it that the farmer "lives at home." In making his advances to the cotton grower he must rigidly adhere to the requirement that the farmer plant foodstuffs sufficient for his family and his livestock, making his cotton crop simply a surplus-money crop.

Mr. Hastings' contentions are worthy of all consideration, but we believe that if all of the bankers of the country will follow the lead of those who organized and controlled the recent bankers' convention in New Orleans a long step will have been taken toward the solution of the cotton problem on practically the exact lines that Mr. Hastings points out as necessary to be adhered to.

Difficulties That One Preparedness Advocate Encountered.

WILLIAM T. WELLS. Melbourne, Fla.

I have enjoyed reading your editorials on National Preparedness. I am entirely in sympathy with you and thank you for them.

I have been somewhat familiar with the iron business for many years, having been connected with the Rustless Iron processes and the companies controlling them, and, while I knew in a general way the location of the large iron works and ammunition factories, I did not realize that conditions are as you point out.

It is a matter that needs prompt and efficient attention.

I doubt very much if Congress will do anything, and the following story is the reason of my belief:

Some years ago I chartered a railway company to build a really deep-water harbor here on the east coast of Florida and to build a railway to cross the State and tap the big phosphate fields. While the late Henry

M. Flagler was in favor of the proposition, he was in an agreement with the other roads that prevented his taking hold, and consequently the opposition of the big interests have prevented the financing of the scheme.

Later it was suggested that if I could get United States engineers to look over the matter that the favorable report we hoped for and expected would induce capital to take hold in spite of the opposing interests, and so I prepared a full and complete explanation and had our Representative from this district introduce a bill asking that the United States engineers examine and report. This bill, although pressed by some Northern Congressmen, was held up in the Rivers and Harbors Committee, of which one of the Florida Congressmen is chairman.

The examination would have cost the Government practically nothing, and the question as to whether a really deep-water harbor that would accommodate any of our battleships would be of advantage or not was never studied by competent men. My contention was that such a harbor, right on the Atlantic, where it could not be bottled up and where it could be made practically impregnable, would be of immense value as a part of our coast defense. But the big interests seemed more influential than the interests of the country at large.

I claim that there is only one place on the Atlantic coast of Florida where a deep-water harbor can be made and economically maintained. Back of this location is a sand hill about 30 feet high and over a mile long that would make a fort that even the German guns would make little impression on.

Then, as to commercial uses, the harbor at this place would provide an outlet for the Southern manufacturers and also for many of those of the Middle West who now ship to vessels in New York for Pacific coast points via Panama. The harbor here would save many miles of rail and 1200 miles of water transportation.

In the face of all this the big interests who control the Atlantic Coast Line Railway are able to block the construction of this harbor because it would very likely take nearly 3,000,000 tons of freight from them each year at the present and more in the future.

In closing I want to congratulate you on the article on page 51 in issue of the 2d inst., entitled "Imperiling the Nation in Championship of Trade," etc. It seems strange that men who will sit in Congress and make no move while our citizens in Mexico are robbed and murdered, and worse, will set up a howl because England in her battle for life has to interfere with the cash profits of some of their friends. It almost makes one ashamed to be a citizen of the United States.

Should Stir the Depths of Patriotism.

S. A. JONES, Waynesville, N. C.

My congratulations for the nation-wide interest you are arousing for action on National Preparedness before it is too late to be done without cost of bloodshed and billions of money.

The extract in your issue of the 9th inst. from Mr. Kingsley's address brings an illuminating light so far-reaching that it ought to stir the depths of serious Christian patriotism in the hearts of every American citizen and lover of her democratic republican form of government throughout the world.

I hope you may live to see success crown the noble efforts you are making.

The Peril to "the Solar Plexus of Uncle Sam."

W. F. SCHMITT, Assistant to the General Manager, Packard Motor Car Company, Detroit Mich.

Your interesting editorial in a recent issue of the MANUFACTURERS RECORD, captioned "National Preparedness an Unrealizable Dream Under Existing Iron and Steel Conditions," has been carefully read, and we have noted your further comments on the subject in your letter of November 15 addressed to Mr. Joy.

Your plan has our unqualified endorsement. I think this is a matter which should be strongly propagated by the press, including your good medium. There is no doubt that the weakness in our present policy, as pointed out in your article, exists. Another, and to our mind equally serious, weakness in our national defenses lies

in the fact that our Government arsenals and private munition plants are located in a restricted area in the extreme Eastern part of our country, which area has been rightly termed the "solar plexus of Uncle Sam." A distribution of adequate institutions of this character in less accessible and exposed districts is obviously requisite.

We consider it exceedingly timely and important that these vital issues be brought to the attention of the public in a forceful manner.

Who Am I? What Am I?

I am the foundation of all business.

I am the fount of all prosperity.

I am the parent, most times, of genius.

I am the salt that gives life its savor.

I am the sole support of the poor.

The rich who try to do without me deteriorate, languish and usually fill premature graves.

I am the primeval curse, yet a blessing that no healthy man or woman can be happy without.

Nations that woo me ardently rise; nations that neglect me die.

It is I who have made the United States what it is today. I have built her matchless industries, opened up her rich minerals, laid her incomparable railways, reared her cities, built her skyscrapers.

I have laid the foundation of every fortune in America, from Rockefeller's down.

I alone have raised men up from the ranks and maintained them in positions of eminence.

I am the friend and guide of every worthy youth. If he sticks close to me, no prize or place is beyond his reach. If he slights me, he can have no enviable end.

I am the sole ladder that leads to the Land of Success.

Sometimes men curse me, seeing in me an arch enemy, but when they try to do without me life turns bitter and meaningless and goalless.

I must be loved before I can bestow my greatest blessing and achieve my greatest ends. Loved, I make life sweet and purposeful and fruitful.

Fools hate me; wise men love me.

Savages, some rich men and many rich women shun me—to their undoing.

The giants who fill the presidential chairs of our railroad systems, our great industrial organizations, our colossal mercantile establishments and our institutions of learning, almost without exception, owe their places of me.

I can do more to advance a youth than his own parents, be they ever so rich.

I am the support of the millions; indirectly, the support of all.

I am the creator of all capital.

Wealth is me stored up.

I am represented in every loaf of bread that comes from the oven, in every train that crosses the continent, in every ship that steams over the ocean, in every newspaper that comes from the press.

I am more zealously cultivated in America than in most other countries, especially by men of wealth.

I am sometimes overdone—voluntarily by the ambitious, involuntarily by the oppressed and the very young.

But in moderation I am the very oxygen of the able-bodied, even though some, sure of my constancy, look upon me as loathsome. A little taste of my absence quickly brings them to their senses.

My followers among the masses are becoming more and more powerful every year. They are beginning to dominate governments, to overthrow anachronistic dynasties.

I am the mother of democracy.

All progress springs from me.

The man who is bad friends with me can never get very far—and stay there.

The man who is good friends with me who is not afraid of me, can go—who can tell how far?

Who am I?

What am I?

I AM WORK.

—From Finance Business and the Business of Life.

Uncle Sam's Effort to Capture the World's Trade

[Special Correspondence Manufacturers Record.]

New York, December 20.

The United States of America has declared war on Germany and Great Britain and the rest of the existing world.

But this declaration of war does not require munitions, guns or high explosives, or death-dealing gas bombs to back it up.

It needs only National Preparedness which in this instance means American manufactures, American products of soil and shop, backed by American enterprise and capital, sent to the world at large.

It needs the best thought and foresight and study of new world conditions which American business interests—advisedly, “Big Business,” for the units of its measurement can be expressed only in inconceivably large totals—can give it.

And that it is receiving all this in full measure is attested by the amazing turn in trade affairs, both foreign and domestic, which the European war has brought to this country.

In its declaration of war, which was issued for it when the first cargo of American products was billed for Europe after Germany's invasion of Belgium, the United States gave no intimation of its world-wide scope.

As a matter of fact not even the shrewdest of American bankers and business men could clearly forecast that which has followed within the last 17 months.

With the year-end near and the business war outside our three-mile limit restricted only by the credit which other nations are able to raise, the future appears bright for our warriors of industry.

But while the existing situation as to foreign trade warrants confidence in the statement that for months to come we will send our goods and products of shop and factory over seas at an average rate of \$10,000,000 every day in the week, American manufacturers and bankers are taking vigorous measures to prevent undue shrinkage when the carnage in Europe ends.

They are awake to the realization that while business war—the laudable efforts of nations at peace to put their wares first upon the counters of international consumers—may not be all that Sherman said real war was, it is a gigantic task to supplant either Germany or Great Britain or France in a business field.

To hold the trenches it has already won in its invasion of the world's business battlefield and to compass the advance of its main guard carrying iron, steel, copper, agricultural implements, foodstuffs, building materials, modern machinery and all finished products, the United States has called for its best constructive talent.

The ablest strategists in business, the greatest leaders in finance, the foremost bankers, the most courageous pioneers in export trade, the best minds in the governmental field, are at work for Uncle Sam.

That this year's total import and export trade of the United States will most likely cross \$5,000,000,000, the highest mark ever scored, is only part of the story.

For the first time in history the international trade of the United States exceeds that of Great Britain, and, again, for the first time, this country has so much owed to it by other countries that the financial machinery of the world is upset in efforts to pay it.

But all these are matters of the past. It is in the grit yet to be ground, in the water that is to run over the mill to furnish the power for the future, that American manufacturers and all who are aiding them to put our world trade on a firm basis are concerned.

When the nations of Europe return to their previous tasks of commerce and industry the pressure upon the invading business army of the United States will be terrific. Anticipating this, praiseworthy and

characteristic steps are being taken by American business men to foresee and forestall the attacks.

Since Great Britain, because of the war, quit exporting 55 per cent. of its manufactured products, and Germany for the same reason found its foreign markets for 45 per cent. of its production entirely gone, the United States has walked into foreign territory with seven-league boots.

South America, geographically and by zone interests our field, has been rediscovered in a business sense since Europe went to war; the near East, the far East, the Orient, Australasia, the neutral nations, the warring nations—the entire world in fact—have opened the door to the manufacturers and producers of the United States.

And now they are trying to keep one foot firmly planted in the open door while they are establishing the other squarely on territory willing to be conquered in this conquest of peace.

Through the establishment of branch banks in many countries; the incorporation of various companies officered and directed by nationally known business men, to encourage and promote export trade, and by generally directing trade channels into profitable foreign marts, much work of a lasting nature has been accomplished.

Notable in the list of those most active in the endeavor to not only hold, but to enlarge our trade with other countries, are the American manufacturers.

And foremost among those may be counted the American Manufacturers' Export Association. Realizing that real strength in the foreign trade field does not always follow armament, the Export Association, along with others, has been energetically and intelligently bringing to hand those necessary sources of information as to credit, risks, moral and financial, attendant upon business in foreign lands.

More than all else, they are helping to clinch the truth that if our trade war is to be successful beyond a brief march across the stage, we must give other people what they want, when they want it and in the form they want it.

That the exports and imports of the United States may in the next calendar year reach \$6,000,000,000 is conceivable.

And that another 17 months of European war may bring about the concentration of the bulk of the world's supply of gold in this country is also conceivable. Such a contingency is already being given due thought.

Long Idle Coke Ovens are Being Opened up and Fired.

Bluefield, W. Va., December 16—[Special.]—After three years of idleness the 2150 “bee-hive” coke ovens owned and operated by the United States Coal & Coke Co. at Gary, 44 miles from Bluefield on the Norfolk & Western Railway, and in the heart of the coal fields of West Virginia, are being opened up and fired as fast as the men can be secured to work them.

This statement was made to your representative over the long-distance phone by Col. Edward O'Toole, general superintendent of the operations at Gary. Mr. O'Toole stated that they were having some little difficulty in getting in touch with the right kind of men, but that by the time all the ovens had been fired up that they would have to employ 2000 extra men. This concern, in its vast coal-mining operations, has had 3000 men employed turning out the 15,000 tons of coal each day for the last several years.

The United States Coal & Coke Co. controls and mines coal from approximately 65,000 acres in and around Gary. The total investment in the development as a whole is said to be over \$7,000,000. About three and a half years ago it was decided to dismantle the great battery of coke ovens owned by this company. Instead of using the coal there it was decided to ship it North, where it could be burned in the by-product ovens. Making coke under the “bee-hive” system, it is understood, was very costly then on account of the low

price of coke. It was for that reason that the ovens at Gary have been idle, and it is by reason of the present unprecedented demand for coke that they are to be opened again.

New tracks are being laid through the coke property and like improvements are being made over the property. Advertisements for a thousand men are being posted in this section now, and a call will be made for others as soon as the men hired have begun work. Every train into Gary is bringing them by the scores.

When all of the 2150 ovens are in operation the total capacity from them all will be 4000 tons of coke per day.

John T. Wilson of Bluefield, secretary-treasurer the Tug Rivers and Dry Fork Coal Operators' Associations, states that reports from all parts of the Pocahontas district, of which Bluefield is the metropolis, are that the demand for coal and coke is so great that practically every available mine or plant is running to its fullest capacity. Locally the good times are expected to continue for some months to come. Many of the contracts on which the mines and ovens are running cover the whole year.

PIG-IRON FIRM AT \$14.50 to \$15.

Conditions in the Birmingham District—Activity Among Foundrymen, Pipemakers and Coal and Coke Producers.

Birmingham, Ala., December 18—[Special.]—The large merchant iron-producing interests are adhering strictly to the \$14.50 base price for first half shipment. One interest has advanced its base price to \$15 per ton at the furnace. There is yet some \$14 iron for prompt or nearby shipment, but not for any extended delivery. During the past week there has been some disposition on the part of producers to open their books for a limited tonnage for the third and fourth quarter at \$15 per ton at the furnace.

Sales during the week have been comparatively light, due largely to the fact that buyers have naturally elected to “rock along” until after the holidays. Producers are not looking forward to any great activity until the middle of January next or possibly early in February. Practically all the important buyers have covered their wants for the first half of next year, and unless there should occur some unexpected conditions to stimulate things it is not likely that they will “rush in” for their last half requirements. However, the feeling is that they would be willing to take chances on a \$14.50 price at this time for their requirements, and with all the facts before them would probably consider this price a good buy at this time.

General foundry conditions have improved materially throughout the South, and where heretofore only two or three heats a week obtained many shops are running full time on a general line of work. Following table represents prevailing prices in the district per gross ton, f. o. b. cars at the furnace:

| |
|--|
| No. 1 foundry and soft, \$15 to \$15.50. |
| No. 2 foundry and soft, \$14.50 to \$15. |
| No. 3 foundry, \$14 to \$14.50. |
| No. 4 foundry, \$13.25 to \$13.75. |
| Gray forge, \$13 to \$13.50. |
| Basic, \$14.50 to \$15. |
| Charcoal, \$22 to \$22.50. |

The cast-iron pipe makers report a substantial business. The American Cast Iron Pipe & Foundry Co. recently sold 250 tons for shipment to the Middle West, and additional tonnage pending. Following prices are quoted per net ton f. o. b. cars at the plants here: Four-inch, \$24; six-inch and upward, \$22, with \$1 per ton extra for gas pipe.

The steam and domestic coal business continues to improve, due, of course, to weather and holiday conditions. Practically all the mines are on full time, and have taken advantage of stocking their plants for the usual holiday incidents. Coke prices are firm at \$2.75 to \$3 for furnace use and \$3.25 to \$3.75 for foundry. The Tennessee Coal, Iron & Railroad Company has put in commission its 300 coke ovens (beehive) located at Johns, Ala. These old-type ovens have been idle for the past five years, since the installation of their modern by-product ovens at Fairfield, Ala. This action on the part of the Tennessee Company accentuates their heavy demand for coke at their furnaces, which are running to capacity.

Y. A. DYER.

Mexico to Get \$50,000,000 from United States Bankers

[Special Correspondence Manufacturers Record.]

New York, December 20.

New York bankers are planning to lend \$50,000,000 to the Carranza government of Mexico. Preliminary negotiations have reached the point where the granting of the loan seems assured, and accredited representatives of Mexico are here to complete the transaction.

It is believed that the money will be available for use by Mexico in January. As it is expected to mark the beginning of the rehabilitation of Mexican industry, it is of especial interest to the South and Southwest.

The Mexican Government is to use the \$50,000,000 in American gold as a reserve fund to guarantee an issue of paper money which will aggregate nearly \$150,000,000 to be put out by the Central National Bank.

This new bank is to be established by the Carranza government to replace the State banks which heretofore have issued paper money. In the future this function will rest with the Central National Bank.

To secure the loan Mexico will give the reserves of the present State banks, which are to be taken over by Carranza. These, amounting to \$41,000,000 United States gold, will be supplemented by stamp taxes.

Bankers informed of the plans for financing Mexico regard them as of special importance. Their successful outcome will mean much to the big American railroad systems which have built into Mexico, as well as to the American lines running south to the border or to Gulf ports.

It will also help greatly to bring about re-establishment of profitable business relations between Texas and the other States most concerned in Mexican trade. Most of all, it is expected to prove a great factor in restoring to normal the large American interests in Mexico which were practically ruined by the republic's years of internal strife.

Including all commercial mining, manufacturing, financial and transportation interest of the United States in Mexico, Americans have more than a billion dollars invested there. Nearly all the great industries of this country have important investments in Mexico.

This is notably true of the oil, smelting, copper and railroad groups. Leading all others in the benefits to be derived from a return to sanity in Mexico is the Harriman Railroad system. The Southern Pacific lines in Mexico will reap big business results, and if the plans of New York bankers are fully carried out the pending loan of \$50,000,000 will prove simply the forerunner of still larger ones.

French and British capital, which in the past has largely financed Mexican banks, traction, brewing, electric projects, oil developments and the silk and linen trades, will be replaced in great part by American money. German interests, which have been prominent in machinery and white goods, will also be reduced through New York's financing of a big part of Mexico's needs.

The financial interests here that will prove dominant in the new loans include powerful and representative groups. A syndicate of bankers will probably be formed to handle the loan.

The expanding embargo against export freight through the port of New York, which has now been declared by nearly all the roads with terminals here, has become of vast concern. To prevent the threatened complete blockade extraordinary measures have become necessary and are now being tried. The severe weather conditions of last week, which for nearly three days prevented any headway in the efforts to relieve congestion, greatly increased the number of loaded cars here or on sidings en route and compelled the interdiction of freight from all lines, except food and coal intended for consumption in New York.

Continuance of our foreign trade in unprecedented tonnage and value is threatened now with conditions abroad which render the task here at New York one of greater magnitude. More cars, more elevators, more lighters, more ships, more men—these are the demands of shippers, railroads, manufacturers, port authorities,

Since congestion here has become so real, more knowledge of conditions abroad has been secured. Embargoes in British and French ports demonstrate that in some of the best ports they are unable to discharge and load ships. The entire transportation machinery in many instances is wrecked because of the scarcity of men. Quays, yards and warehouses are so choked with merchandise that in some instances the ports have been closed.

The reflex movement of these conditions has, in turn, been felt chiefly in the port of New York. This has been almost as much a factor as a scarcity of bottoms in bringing about the freight blockade.

The steel situation of today can best be told in paragraphs:

Steelmakers are overwhelmed with orders. They are trying to increase productive capacity everywhere, but without noticeable results.

Prices continue upward because producers are able to fix the return for their output well into the last quarter of 1916. Some are continuing to decline export orders, even though the foreign nations are now willing in some instances to book orders for delivery any time next year.

Orders for 1916 third quarter tonnage are heavy, though platemakers are still declining to open their books until later for either the third or fourth quarters.

Wire mills are sold fully six months ahead. The steel-bar mills are sold to the latter part of June, and deliveries on 25 per cent. of existing orders will likely be late.

Orders for export steel products at from \$7 to \$11 a ton above the domestic price have been declined by a number of steelmakers.

A scarcity of billets is holding back a number of projects. It is also responsible for some of the recent spectacular advances in prices.

Pig-iron is headed for the \$20 mark. Iron ore will cost the steel mills depending on Lake sources for their supply 75 cents a ton more next season, plus any increase in Lake freight rates. Coke from Connellsville will also cost 50 cents a ton more.

The pending \$300,000,000 merger, which plans to bring together Cambria, Lackawanna, Youngstown Sheet & Tube Co., Newport News Shipbuilding Co. and others, may be brought about soon. Meantime Bethlehem and Midvale are acquiring additional lands in South Jersey for proving grounds and plants, and are pushing ahead for new business at home and abroad.

Cotton Acreage Is Put Up to Bankers.

Editor Manufacturers Record:

We have noted with much interest items appearing in the MANUFACTURERS RECORD and other publications in the South expressing fear that the "farmer" will overplant cotton in 1916.

A banker's convention in New Orleans recently "resolved" on the subject, and urged a continuation of the diversified farming policy by our farmers.

We have no wish to impugn the sincerity of good motives of these bankers and the men in commercial lines generally who have spoken along this line, but in the light of past experience it would be amusing if the issue involved was not so great and so serious.

The writer has been in close touch with the cotton-growing industry for many years, and has had ample opportunity to study all its phases, and we are perfectly willing to stand by the assertion that the land-owning farmers and regular every year renters have made the bumper part of a bumper cotton crop.

The bumper part of a bumper crop, if it may be so expressed, is produced, indirectly, of course, but none the less certainly, by the banking and commercial interests of the South and New York, and it is absolutely up to them to say whether this "bumper part" shall be produced or not, any and every year.

The acreage planted each year by the land-owning farmer who grows his crop with his own or hired

labor and by the regular, steady, year after year tenant, renter or cropper is fairly constant, usually limited by his ability to tend with labor, tools and work animals at his disposal.

The product of what we may term this regular cotton acreage is also fairly constant, varying only through season conditions, and when the whole cotton belt is taken into consideration this variation is much less than the average man would suppose.

In the past it has been the almost invariable rule that a year of high-priced cotton was followed by a low-priced one, due to the production of a crop two or three million bales in excess of normal requirements, and it is this extra two or three million bales that smashes the market, this surplus cotton raised by bankers and wholesale houses indirectly through over-expansion of credit when cotton is high.

This credit expansion enables supply merchants, country bankers and landlords to stake every trifling negro and white man in their particular neighborhood to go out and plant an extra 20 to 30 acres in cotton, and they will do it every chance they get.

In the past this has meant the planting of an extra four or five million acres that could not and would not be planted without this credit expansion, and from these acres comes the greater part, at least, of the bumper part of the bumper crops.

In the last analysis the responsibility for this constantly recurring trouble must rest on the men in the financial and commercial centers who finance cotton-growing, either directly or indirectly.

These extra acreage operations cannot be financed by local banking or merchandising capital, for there is not enough of it to finance what we may term the regular or constant acreage, let alone the extra acres.

What is needed today above all things is stability in all phases of the cotton industry. We need reasonable stability as to both quantity and price for the good of all concerned.

The legitimate farmer needs this stability; so does the spinner. Every industrial, commercial and banking interest in the South that is dependent on cotton for its steady prosperity needs this stability. It is far better for the South to have two successive years of 10-cent cotton than it is to have one short-crop year selling at 12 cents or upwards, followed by a large crop year with cotton 8 cents or lower.

This desirable stability in cotton can be obtained any time the bankers and the financial centers of the South and New York will take steps to hold down this essentially speculative extra acreage, for it is only through the extra credit extended by them, either directly or indirectly, that this speculative acreage can be planted that produces largely, if not all, the bumper part of the bumper cotton crops.

With the present and prospective prices of cotton, it is going to be a great temptation to finance a few extra million acres of cotton in 1916, and it will be done, if the past is any criterion, unless the bankers themselves take action restricting the usual over-expansion of credit for cotton-growing purposes, such as has been common in past high price cotton years.

If this extra speculative acreage is financed by them in 1916, we certainly hope that the bankers in our own towns and cities won't grumble, when the price slumps, about the "fool farmer" putting all his acreage in cotton, for it is usually a condition of the credit to carry these speculative acres that the man to whom the credit is extended is required to plant an acreage up to his ability to tend in cotton, and cotton only.

This whole question is going to be very largely up to you, Mr. Banker, who finances cotton growing, either directly or indirectly. It is in your hands. What are you going to do about it?

H. G. HASTINGS.

Atlanta, Ga., December 13.

Possibly of Interest to Uncle Sam.

FRANK DABNEY, Bay St. Louis, Miss.

In Georgia a few years since I saw a number of "coffee-pot stills," i. e., small stills that can be used on a kitchen stove to make a small quantity of whiskey for home use. I could sell thousands of them here. Hardware men and factories won't handle or make them, because they say their neighbors, the liquor men, want to ship the goods. Can't you tell me where I can get the article described?

Two Million Monthly Pay Roll at Hopewell

STRIKING CONTRAST BETWEEN HOPEWELL, VA., AND MANY OTHER BOOM TOWNS.

By ALBERT PHENIS.

When Hopewell, Va., the du Pont Powder town, went up in smoke a few days ago many people wondered if that was not the ending of a mushroom town. Even among those who are prepared to see the town rebuilt there are many who hold to the opinion that this wonder city of some 30,000 population, which has sprung up by magic from the small village of City Point within hardly more than half a year, is doomed to merely fleeting glory, and that with the end of the war the activities of the du Pont Powder Co. will cease and Hopewell's population will vanish almost as quickly as it came.

From observations made on the ground recently, and from all the information I can obtain, it is my opinion that the foundations for a substantial and enduring industrial city, of even greater size than the present population of 30,000 represents, are resting on tangible and substantial ground.

While no statement of their plans and intentions has been furnished to the public by the du Ponts, the magnitude of the improvements already made, the purchase of ground and the leases of other tracts for a long term of years, the construction of additional buildings and the reports of still further extensions to be made, all bear evidence of a permanency in the development which the tides of the European war will not materially affect. It must be remembered that the products of the du Ponts are used in great quantities and for various purposes in times of peace as well as war, and it is also to be taken into consideration that the program of preparedness favored by the preponderating majority of the people of the United States requires that the manufacturing of explosives for use by this country shall be developed to a vastly greater extent than has been possible up to the present time. It seems altogether likely that the Hopewell plant of the du Ponts has been organized on a basis and for a purpose that goes far beyond any ephemeral activities occasioned by the European war.

The Norfolk & Western Railroad has made large expenditures in doubletracking its line of road between Petersburg and City Point; a local organization laid the tracks and will have in operation early in the year a trolley line between Petersburg and Hopewell, and there is talk of one or more lines of railroad to be constructed between Richmond and Hopewell. These expenditures, it would seem, would hardly be made at this time in case assurances of a permanency in the Hopewell development did not exist.

The people of Hopewell themselves are very largely men who have identified themselves in a permanent way with the prosperity of the place; they believe in its future and they have invested in accordance with that belief. In the early days, when thousands of people swarmed upon the scene of the powder plant construction, it was necessary to provide immediate shelter and eating places for the army of workmen employed on the plant. For this reason a city of large proportions, composed principally of tents and shacks, was the Hopewell first known to fame, but even before the fire, property-owners had begun the construction of four and five-story brick business houses, and since the fire it is the announced intention of the people to rebuild both the residences and stores in a more durable and substantial form.

From a somewhat comprehensive knowledge of boom towns North, South, East and West, it seems to me that Hopewell may quite properly lay claims to having a basis of permanency quite different from that on which other boom towns have been built up. About the only similarity between Hopewell and previous boom towns is the feature of lawlessness which prevailed in the earlier stages of the development. At the time I saw Hopewell everything was as mild as a summer day, and I was told that Major Sylvester, former chief of police of Washington, acting on behalf of the

du Ponts, and Chief of Police Cotton of Hopewell, acting on authority of the Governor of the State, were responsible for the elimination of the vice which ruled the camp in the earlier days. At the time of my visit, about two weeks ago, there were no saloons, no open gambling-houses, and no other public indications of an unusual prevalence of viciousness. When more than 20,000 workmen, with so many different tongues as to remind one of the confusion at Babel, are dumped down in one spot, many of them without families or restraining influences of any sort, and into whose hands there pass the funds of a payroll amounting to on towards \$1,000,000 semi-monthly, it would be marvelous if only a mild degree of depravity were to be developed. Whatever the Hopewell of earlier days may have been, it would appear that the conservation and civilization of the East has smothered and suppressed the tendencies to wild West conditions of primordial barbarity.

I doubt if Hopewell ever has been such a sink of depravity as characterized the "end of the track towns" which preceded the construction of the transcontinental railroads. I have seen an established status of lawlessness, winked at by authorities, even in the oil boom towns of Texas to which I am led to believe Hopewell did not descend.

In Montana the well-established cities built up on mining operations retained much of the vice of pioneer days even down to the time of Statehood. When I visited there less than 30 years ago saloons and dance halls were plentiful, and on the door of almost every saloon was a big sign, "Licensed Gambling House No. —." That Hopewell has eliminated public gambling and drinking within six months after it started, and this in spite of the enormous foreign population, is one of the interesting points of comparison between Hopewell and the cities of the earlier, wilder West, which, by the way, were almost wholly peopled by Anglo-Saxons from the older sections of the United States.

Another distinctive feature of Hopewell, and the one which, as it seems to me, justifies the expectation that here is to be a permanent development and not a mere orgy in real estate speculation, is the fact that the wild real estate boom, so much written about as the outstanding feature of the Hopewell development, is purely incidental to the housing and keeping of an enormous population of industrial workers. Thousands of homes, many stores, shops, places of amusement, etc., are necessary to take care of the army of workers who went to Hopewell before there was a town, and who are there today because they are necessary to the operation of the du Pont plant. There has been an enormous increase in the prices of real estate, beginning first with the advance from farm prices to those paid for tracts for subdivisions, and then from the town-lot prices of early spring to those prevailing at the time of the fire. (Just what changes in lot prices the fire may have brought about I am not informed, but in the light of other cities' experience it is improbable that any material change in prices has resulted from that disaster.) In discussing the real estate situation on the occasion of my recent visit, I was told that business lots in good locations which had sold for \$100 apiece last April were now bringing about \$2000.

This reminded me of the difference between conditions here and those which prevailed in the earlier boom towns of the South, 25 years ago and more. It was a matter of frequent occurrence for some enthusiastic promoter to gather around him a following of similar enthusiasts, who would see in the possible location of an iron furnace on some tract of land the foundation for a large city, heedless of the fact that in the North some of the big steelmaking towns have a population confined almost entirely to workmen, their families and the shopkeepers necessary to their comfort and convenience, with real estate prices low and the movement very sluggish. There were numerous instances in those old

days of sales of staked off lots in a mere cornfield at prices as high as \$5000 for a business lot. A magnetic boomer would work the country with the zeal and ardor of an evangelist, and would get together a crowd of people of means, haul them down in a Pullman train and offer the lands at public auction. Instances have occurred in considerable numbers where by these methods an altogether paper town would be launched by the sale of hundreds of thousands of dollars' worth of unimproved lots, indicated in a cornfield simply by a stake, and at the close of a sales day lots that had been sold for \$3000, \$4000 or \$5000 have been known to change hands privately at a premium. In some cases a town of some consequence has developed from this method of "town building;" in others the "city" has been permitted to relapse into its original cornfield state.

In boom towns in the West the element of hope has always figured to a large extent, and in any event, the development, when it has occurred, has proceeded at a much more moderate pace than was counted on by the far-seeing and most hopeful promoters of the proposition.

In the far West, where a boom town was built up on a mine strike, there were always wilder scenes than Hopewell has ever witnessed, and the permanency of the town, depending on the life of the surrounding ore fields, has always been much more precarious. The entire West is full of boom towns gone back. Readers of Mark Twain will recall Virginia City as an illustration of this decadence.

Hopewell, being built on an industry already located there, which requires a large number of workmen in its operation, and which industry seems altogether likely to remain permanently, has, therefore, a foundation much more substantial than most boom towns ever have had. The excitement in real estate and the hubbub are mere incidents in the transfer of a railroad way-station, with adjacent old fields, into workshops and home places for 30,000 busy people.

Hopewell's location on tidewater makes it possible for a diversified industrial development there, which is to be taken into further consideration by those who attempt to appraise the possibilities of its development.

The tumult and the shouting will die down. The inconvenience and discomfort found in Hopewell, on the road to Hopewell, and in Petersburg, nine miles away, will disappear, and in their place will come the conveniences of Eastern-Southern civilization. There will be at Hopewell an orderly, well-built city of many more than 30,000 within a few years' time. Petersburg will have been permanently benefited by the infusion of new energy and means, and the entire section of Virginia will witness a degree of permanent improvement and development which would hardly have come in the next 25 years if the du Ponts had not gone to old City Point.

This is the way the situation at Hopewell appears to me.

Portland Cement Manufacturers' Association Elects Officers.

At the annual meeting of the Association of American Portland Cement Manufacturers, held in New York last week the following officers were elected: President, B. F. Affleck; first vice-president, F. W. Kelley; second vice-president, Richard Hardy; assistant secretary, L. R. Ferguson; treasurer, O. S. Brown, and assistant treasurer, John J. Matthes.

Percy H. Wilson, who has served as secretary for a number of years, resigned, and J. P. Beck was elected general manager of the association. The association unanimously approved of a comprehensive plan for enlarging the activities of the organization submitted by Mr. Beck, and by resolution the executive committee was instructed to carry into operation the proposals in the report.

Mr. Affleck, the new president, is president of the Universal Portland Cement Company; Mr. Kelley is president of the Helderberg Cement Company, and Mr. Hardy and Mr. Brown are, respectively, presidents of the Dixie Portland Cement Company and Alpha Portland Cement Company. Mr. Ferguson has been connected with the association for some time as assistant secretary. Mr. John J. Matthes is treasurer of the Alpha Portland Cement Company.

Railroad Construction in the South During 1915

ONLY 503 MILES BUILT, THE SMALLEST RECORD OF NEW LINE FOR MANY YEARS—RATHER BETTER OUTLOOK FOR 1916.

Railroad Mileage Built in the Sixteen Southern States During the Last Fifteen Years.

| | |
|------|------------|
| 1901 | 2381 miles |
| 1902 | 4100 miles |
| 1903 | 3707 miles |
| 1904 | 2421 miles |
| 1905 | 2625 miles |
| 1906 | 3262 miles |
| 1907 | 3331 miles |
| 1908 | 1761 miles |
| 1909 | 2031 miles |
| 1910 | 2048 miles |
| 1911 | 1814 miles |
| 1912 | 2026 miles |
| 1913 | 1753 miles |
| 1914 | 911 miles |
| 1915 | 503 miles |

Stagnation distinguished railroad construction work in the Southern States during the year just ending, and, as was expected a year ago, the total of new line built is the smallest recorded for very many years, it being only 503 miles, or 408 miles less than was constructed during 1914. It is noteworthy that the new construction approached within a comparatively small margin the estimate of probable work made before the beginning of the year, which was 576 miles, the results being a good percentage of accomplishment, considering the indisposition of capital to embark in railroad enterprises.

Prospects of construction for the new year are better than they were, and work has already begun on several new plans, some of them important. It is proposed to build 1008 miles, and it may be expected that construction during 1916 will roll up a larger total than did 1915, although it is not to be anticipated that much new railroad will be built until business generally resumes its normal course.

Most of the construction accomplished in 1915 is in the eastern States of the South. Florida again has the largest total of new line, although it is only 88 miles. Next comes Virginia with 77 miles, then Alabama with 59 miles; Kentucky, 53 miles; North Carolina, 53 miles; West Virginia, 41 miles, and Georgia, 37 miles, in the order named. Texas, which for several years led the van of railroad construction in the South, appears in the list this year with an insignificant mileage, and Louisiana, which was likewise a liberal builder of railroads, is now also on about the same footing. It is the same way with other States in their neighborhood, and the outlook there for new work next year is quite slim.

Among the railroad construction of this year is to be found the completion of the Elkhorn extension of the Carolina, Clinchfield & Ohio Railway, which was opened for traffic in the summer, providing an important short route between the South and the West, including the Great Lakes; also the completion of the Paducah & Illinois Railroad, a 12-mile line from Paducah, Ky., to a point on the Ohio River opposite Metropolis, Ill., this to furnish a connection between the Louisville & Nashville system and its subsidiaries and the Chicago, Burlington & Quincy system. A great bridge is being erected over the Ohio River, but until it is completed traffic will be conducted across the stream by means of car ferries. The Louisville & Nashville Railroad has also constructed a new line between Winchester and Ravenna, Ky., 26½ miles, which will be valuable for the transportation of coal from the Eastern Kentucky mines to the Lakes. The Norfolk & Western Railway built a 37-mile cut-off from Burkeville to Pamplin, Va., which will provide a line of low and easy grades for heavy trains between those points. The Southern Railway has likewise built an important cut-off in Virginia between Danville and Dry Fork, 13 miles, and placed it in operation. In North Carolina the Virginia-Carolina Railway, a Norfolk & Western enterprise, completed an extension to Elkland, 31 miles. Down in Florida the East & West Coast Railway finished its 32-mile line from Manatee and Bradenton to Arcadia, and in Alabama the Gulf, Florida & Alabama Railway completed a northward extension from Broughton to Kimbrough, 52½ miles. These are the most notable pieces of work done.

Next year the Seaboard Air Line expects to see the

completion of its new Savannah extension, which is being constructed under the charter of the Charleston Southern Railroad and which will run from Charleston, S. C., to Savannah, Ga., 85 miles. Work upon this important road is already well advanced, and when it is finished it will afford the system a second route between Hamlet, N. C., and the principal seaport of Georgia. The Florida East Coast Railway has also awarded the construction contract for an important line, although it will be short. This is a cut-off from Maytown northward to New Smyrna, Fla., about 17½ miles, which will provide a much-needed connection between the main line and the Okeechobee division, which can now be reached only via Titusville, some miles farther south than Maytown. Although it is not decided that the work will be undertaken in 1916, the Gulf, Florida & Alabama Railway has in contemplation the construction of a further extension northward from Kimbrough, surveys having been made as far as Jasper, Ala. Construction has started on the Palm Beach & Everglades Railway, a new project from West Palm Beach, Fla., to the Everglades, 22 miles. In Georgia the Savannah & Northwestern Railway plans to build another extension from St. Clair to a connection with the Georgia Railroad, about 35 miles. In Texas the Gulf, Colorado & Santa Fe Railway will rebuild the Gulf & Interstate division over a new route for 23 miles, this to avoid the probability of damage by floods such as wrecked the line last summer.

There is another railroad project which should be mentioned, although it is not yet decided when the work will be undertaken. This is to connect the Marshall & East Texas Railroad, running from Winnsboro to Elysian Fields, Tex., 92 miles, with the New Iberia & Northern Railroad, running from Port Barre via New Iberia and Franklin to Shadyside, La., 88 miles, and make a new railroad extending from Paris, Tex., to New Orleans. This would require the building of extensions from Winnsboro to Paris, 60 miles, and from Elysian Fields to the Sabine River, in Texas, 100 miles, while in Louisiana they would be from the Sabine River to Port Barre, 107 miles, and from Oaklawn, a station between New Iberia and Franklin, to New Orleans, 93 miles, making a total of 360 miles of new road necessary to fulfill the plan. While the construction required amounts to much more than the original lines, there appears, according to reports, a reasonable probability that the work will be done.

Below is a table showing the amount of new construction during 1915. Most of the data from which it is prepared, which appears in the attached details of the year's work, was obtained from official sources. Only new main line and branches are considered. The building of second tracks immediately alongside of old ones and the construction of sidings are omitted. The figures show in miles and hundredths of miles the work which was done in 1915 and what is proposed for 1916.

| States. | 1915. | 1916. |
|----------------|--------|---------|
| Alabama | 59.40 | 37.20 |
| Arkansas | 31.00 | 90.00 |
| Florida | 88.35 | 124.65 |
| Georgia | 37.25 | 110.50 |
| Kentucky | 53.71 | 24.00 |
| Louisiana | 5.00 | 40.00 |
| Maryland | 2.84 | 4.00 |
| Mississippi | 3.20 | 26.00 |
| Missouri | | 33.00 |
| North Carolina | 53.30 | 95.00 |
| Oklahoma | 22.79 | 65.00 |
| South Carolina | 9.50 | 89.50 |
| Tennessee | 11.60 | 53.00 |
| Texas | 6.00 | 93.50 |
| Virginia | 77.80 | 63.00 |
| West Virginia | 41.53 | 70.57 |
| | 503.27 | 1008.92 |

Alabama & Mississippi Railway—For 1916, Leakesville to Evanston, Miss., 13 miles; work under way.
Americus, Hawkinsville & Eastern Railway—For 1916, contemplated. Flint River to Americus, Ga., 18 miles.
Artesian Belt Railroad—For 1916, probably from Christine to Crowther, Tex., 17 miles.

Asherton & Gulf Railway—Proposed for 1916, Asherton to Eagle Pass, Tex., 52 miles.
Atlanta & St. Andrews Bay Railway—Panama City to St. Andrews, Fla., 2 miles.
Atlanta, Stone Mountain & Lithonia Railway—Stone Mountain, Ga., to Quarry, 2.75 miles; Lithonia, Ga., to Quarry, 2 miles. Total, 4.75 miles.
Atlantic Coast Line—For 1916, extension of Hollywood Spur in South Carolina, 4.5 miles; also connection between Monticello Branch and Fanlew Branch, near Fletcher, Fla., 1.3 miles. Total, 5.8 miles. Work on both in progress.

Baltimore & Ohio Railroad—For 1916, Hagerstown to security, Md., 4 miles.

Beaver, Meade & Englewood Railroad—Beaver to McFeran and Forgan, Okla., 7 miles.

Big Sandy & Cumberland Railroad—For 1916, Matney to Grundy, Va., 10 miles. Contract let.

Birmingham & Southeastern Railway—Spur from Wheatley, Ala., 3 miles.

Birmingham, Columbus & St. Andrews Railway—Projected for 1916, Chipley to Graceville, Fla., 12 miles; Southport to Bunkers Cove, Fla., 23 miles. Total, 35 miles.

Birmingham, Selma & Mobile Railroad—Blue Girth to Nichols, Ala., 2 miles. For 1916, Nichols to Coons Landing, 6 miles.

Cache Valley Railroad—Contemplated for 1916, from Thebes, Ill., to Little Rock, Ark., 246 miles.

Carolina, Clinchfield & Ohio Railway—Bear Hollow, Va., to north end of Sandy Ridge tunnel, 5.3 miles, this completing the Elkhorn extension.

Charleston Interurban Railway—Charleston to Marmet, W. Va., 9 miles; for 1916 to complete line to Montgomery, W. Va., 16 miles.

Charleston Southern Railroad—For 1916, Charleston, S. C., to Savannah, Ga., 85 miles. (Seaboard Air Line System.)

Chattanooga Traction Co.—For 1916, extension Chattanooga to Hixson, Tenn., 7 miles. Work in progress.

Chesapeake & Ohio Railway—For 1916, from Madison, W. Va., up Pond Fork of Coal River about 15 miles.

Clarksburg Northern Railroad—Middlebourne to Stand, W. Va., 5 miles. For 1916, proposed extension to Clarksburg, 40 miles.

Clinton & Oklahoma Western Railway—Hammon Junction to Hammon, Okla., .79 mile. For 1916, contemplated, Clinton to Colony, Okla., 30 miles.

Cotton Plant & Southwestern Railway—From Cotton Plant, Ark., toward bottom lands of White River, 12 miles. For 1916, extension of about 7 miles.

Cumberland & Manchester Railway—For 1916, Barbourville to Manchester, Ky., 24 miles. Work in progress.

East & West Coast Railway—Completed line between Manatee and Bradenton and Arcadia, Fla., by 28 miles of construction, 14 miles having been built in 1914.

Elkin & Alleghany Railroad—For 1916, extension of 6 miles from Veneer, N. C., toward Sparta, on which grading is done.

Fellsmere Railroad—Extension to Broadmoor, Fla., 3.65 miles.

Flemington, Hinesville & Western Railroad—For 1916, proposed, Hinesville to Glenville, Ga., 22 miles.

Florida, Alabama & Gulf Railway—Leonard Junction via Falco to Horseshoe, Ala., 2 miles.

Florida & Alabama Railroad—Munson to Pine Level, Fla., 8.5 miles. For 1916, extension from Pine Level, 15 miles.

Florida East Coast Railway—For 1916, New Smyrna to Maytown, Fla., 17.35 miles. Work in progress.

Fort Smith, Poteau & Western Railway—For 1916, extension of 10 miles in Oklahoma.

Fort Smith, Subiaco & Eastern Railway—For 1916, contemplated, Scranton to Dardanelle, Ark., 23 miles.

Glen Rose & Walnut Springs Railway—For 1916, may finish line from Glen Rose to Walnut Springs, Tex., 14 miles, on which construction is partly done.

Graham County Railroad—For 1916, Topton to Robbinsville, N. C., 12 miles. Work begun.

Gulf & Sabine River Railroad—From Camp 8, near Fullerton, La., 5 miles. For 1916, about 5 miles more.

Gulf Coast Railway—For 1916, Venice to Placida, Fla., 22 miles.

Gulf, Florida & Alabama Railway—Broughton to Kimbrough, Ala., 52.4 miles. Extension may be built in 1916, but no plans are yet decided.

Gulf, Colorado & Santa Fe Railway—For 1916, to rebuild Gulf & Interstate Railway by a new route for 23.5 miles from Port Bolivar, Tex., eastward. Contract let.

Gulf, Sabine & Red River Railroad—For 1916, extension in Louisiana to or near Merryville and Leesville, 35 miles. Lutcher & Moore Lumber Co., Orange, Tex., is interested.

Henryetta, Oklahoma & Western Railway—For 1916, from Henryetta to Dewar, Kusa and Creek Mines, Okla., 10 miles. Contract let.

Hawassee Valley Railway—For 1916, Andrews to Hayesville, N. C., 25 miles.

Houston & Brazos Valley Railway—Freeport to Velasco, Tex., 1.5 miles, this being a cut-off.

Illinois Central Railroad—Kuttawa to Cumberland, Ky., 5.18 miles.

Jackson-Tinney Lumber Co. Railroad—For 1916, Wadley, Ala., to timber lands, 6 miles.

J. T. Deal Lumber Railroad (Kinston Mfg. Co.)—Beulaville to Chinquapin, N. C., 9 miles. For 1916, extension to Maple Hill, N. C., 10 miles.

Jefferson & Northwestern Railway—For 1916, proposed extension to Kildare, Tex., 9 miles.

Kanawha, Glen Jean & Eastern Railway—Extension to mines, 2 miles. For 1916, may build from Tamroy to Beckley, W. Va., 8 miles.

Kansas City & Tiffany Springs Railway—For 1916, Kansas City to Tiffany Springs, Mo., 15 miles.

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Kansas City, Ozarks & Southern Railway—For 1916, contemplated extension from Ava, Mo., southward 30 miles.

Linville River Railway—Montezuma to Linville Gap, N. C., 5 miles. For 1916, from Linville Gap to Shulls Mills, N. C., 9 miles.

Louisville & Nashville Railroad—Winchester to Ravenna, Ky., 26.69 miles; Typo to Harrold, Ky., 5.29 miles; Lothair to Buffalo Creek, Ky., 1.37 miles; Lothair to Ashless, Ky., .39 mile; and Ages to Kilday, Ky., 1.59 miles. Total, 35.33 miles. Plans for 1916 not announced.

Lula-Homer Railroad—For 1916, from Lula to Homer, Ga., 14 miles.

Marlin-Temple Interurban Railway—For 1916, proposed, Marlin to Temple, Tex., 30 miles.

Marshall & East Texas Railway—For 1916, proposed, Winnsboro to Paris, Tex., 60 miles; also from Elysian Fields, Tex., to the Sabine River, about 100 miles. Total, 160 miles.

Memphis, Dallas & Gulf Railroad—Murfreesboro to Shawmut, Ark., 19 miles.

Meridian & Memphis Railway—From Alabama & Vicksburg Junction to terminal at Meridian, Miss., 3.2 miles. For 1916, from Union to Sebastopol, Miss., 13 miles.

Midland Railway—From Statesboro, Ga., to the boundary of Chatham county, 8 miles. For 1916, to complete to Savannah, Ga., about 15 miles.

Morgantown & Wheeling Railway—Cassville to Price, W. Va., 8 miles. For 1916, Price to Blacksville, W. Va., 7.45 miles, which is now graded. Contemplated, Blacksville to Wheeling, W. Va., about 50 miles.

Morgan-Fentress Railway—For 1916, extension from Martin towards Jamestown, Tenn., 13 miles. Contract let.

Mount Airy & Eastern Railway—For 1916, extension from Meadowville, Va., 6 miles, on which work has begun.

Nashville & Eastern Electric Railway—For 1916, projected, Lebanon to Smithville, Tenn., 35 miles.

Nashville, Chattanooga & St. Louis Railway—Spur to Sylvan Mills, near Shelbyville, Tenn., 2 miles.

New Iberia & Northern Railroad—For 1916, proposed, Oaklawn to New Orleans, La., 93 miles; Port Barre, La., to Saline River, 107 miles. Total, 200 miles.

Norfolk & Western Railway—Burkeville to Pamplin, Va., cut-off, 37 miles; Alma Branch extension, 1.86 miles; Widemouth Branch, 1.83 miles; Jacobs Fork Branch, 5.21 miles; total, 8.90 miles, all in West Virginia. On the Tug River & Kentucky Railroad, 1.20 miles, of which practically all was in Kentucky. Grand total, 47.93 miles.

Northampton & Hertford Railway—For 1916, survey made and may build from Jackson to Ahoskie, N. C., 35 miles.

Northwestern Railroad of South Carolina—From Manville Junction to Rose Hill, S. C., 9.5 miles.

Oklahoma Southern Railroad—Rochelle to Pope City, Ga., 7 miles. For 1916, proposed extension from Pope City to Perry and Macon, 65 miles.

Ocmulgee Valley Railway—Between Lumber City and Jacksonville, Ga., 14 miles. For 1916, to finish line to Jacksonville, 6 miles.

Oklahoma & Santa Fe Railway—Cushing to Oilton, Okla., 15 miles.

Oneida & Western Railroad—From Oneida, Tenn., northwest, 9 miles. For 1916, to complete extension as now decided, 7 miles.

Ozarks Railway—For 1916, proposed, Mountain Home to Rothville townsite, Arkansas, 15 miles.

Paducah & Illinois Railroad—Paducah, Ky., to the Ohio River opposite Metropolis, Ills., 12 miles.

Palm Beach & Everglades Railway—For 1916, Palm Beach to Everglades, Fla., 22 miles. Work begun.

Pelham & Havana Railroad—Darsey to Havana, Fla., 5 miles.

Pensacola, Mobile & New Orleans Railway—For 1916, extension from Daphne, Ala., to Mobile, 22 miles.

Petersburg & Appomattox Electric Railway—Petersburg to Hopewell, Va., 10 miles.

Piedmont & Northern Lines—Belmont Junction to Belmont, N. C., 4 miles.

Pine Bluff & Northern Railway—For 1916, proposed, Cullowhee to Pine Bluff, Ark., 25 miles.

Princeton & Bluefield Electric Railway—Princeton to Bluefield, W. Va., 12 miles.

Radford-Willis Southern Railway—For 1916, Radford to Willis, Va., 23 miles. Contract awarded.

Richmond, Rappahannock & Northern Railroad—For 1916, West Point to Urbanna, Va., 17 miles. Contract let conditionally, but will probably be built.

Roanoke River Railway—For 1916, contemplated from Townsville, N. C., to connect with the Southern Railway, 11 miles.

Roby & Northern Railroad—Roby, Tex., to North Roby, 4.5 miles. For 1916, proposed from Roby to Longsworth, Tex., 7 miles; also contemplated from Longsworth to Sweetwater, Tex., 18 miles. Will probably be built.

Rolla, Ozark & Southern Railway—For 1916, from Rolla to Anutt, Mo., 18 miles, on which considerable construction is reported done.

Rome & Northern Railroad—For 1916, proposed, Gore to Sublimina, Ga., 8.5 miles.

Sand Springs Railway—Extension of 1 mile near Sand Springs, Okla.

Sapulpa & Oil Field Railroad—For 1916, Depew to Drumright, Okla., 15 miles.

Savannah & Northwestern Railway—For 1916, from St. Clair, Ga., to a connection with the Georgia Railroad, about 35 miles; also projected to Washington, Ga., 25 miles farther. Work to be done as Savannah & Atlanta Railway, which has been incorporated for the purpose.

Seaboard Air Line—Completed extension from Bartow to

Lake Wales, Fla., 17.20 miles. (See also Charleston Southern Railroad.)

Shepherd Railway—Brooklet to Leeland, Ga., 4.5 miles.

Southern Railway—Completed cut-off from Danville to Dry Fork, Va., 13 miles; also Memphis-Chattanooga Railway at Chattanooga, Tenn., 2.88 miles; total, 15.88 miles. For 1916, from Chilhowee, Tenn., to mouth of Cheoah River, N. C., 14.5 miles, although only 5.5 miles from Chilhowee to Alcoa, Tenn., is now authorized.

South Florida & Gulf Railroad—Construction Camp to Halsey, Fla., 14 miles. For 1916, Halsey to Hunterland, Fla., 12 miles. (There were 6 miles built from Kenansville in 1914.)

Statesville Air Line—For 1916, Statesville to a point between Harmony and Houstonville, N. C., 20 miles.

Tennessee & North Carolina Railroad—For 1916, contemplated, Waterville to Canton, N. C., 35 miles.

Tennessee Railway—Charles Branch to Reynolds Branch, Tenn., .6 mile. For 1916, from Reynolds Branch to the Morgan County boundary, 7.5 miles; also lateral lines, 4 miles. Total, 11.5 miles in Scott county.

Tidewater Securities Corporation—For 1916, Alabama Port to Cedar Point, Ala., 3.2 miles. Grading done.

Trinity Valley & Northern Railroad—For 1916, proposed, Lumm to Lamb, Tex., 9 miles.

Van Horn Valley Railway—For 1916, from Van Horn, Tex., up the Van Horn Valley, 15 miles.

Vicksburg, Alexandria & Southern Railway—For 1916, contemplated, from Thomas to Harrisonburg, Va., 50 miles.

Virginia-Carolina Railway—Tuckerdale to Elkland, N. C., 31.3 miles.

Virginia-Blue Ridge Railway—Nelmont to Woodson, Va., 12.5 miles; for 1916, from Lowesville to Massie Mill, Va., 7 miles.

Virginian Railway—Out of Amigo, W. Va., 1.13 miles.

Watauga & Yadkin River Railroad—Denny to Darby, N. C., 4 miles. For 1916, Darby to Rogers Mill, distance not given. Contemplated, Darby to Boone, N. C., 21 miles.

Western Maryland Railway—Charlton, Md., to connection with the Williamsport, Nesle & Martinsburg Railway, 2.84 miles. For 1916, from Clefton, W. Va., up Helens Run, 6.12 miles; also from Hutchinson to Wyatt, W. Va., 8 miles. Total, 14.12 miles.

A \$5,000,000 ELECTRIC POWER ENTERPRISE.

Details of American Gas & Electric Co.'s Plans for Wheeling-Pittsburgh District.

Interesting particulars of the plans of the American Gas & Electric Co., New York, for an initial investment of \$2,500,000 and an ultimate investment of \$5,000,000, for an electric generating station and transmission system in the Wheeling-Pittsburgh district, have been received by the MANUFACTURERS RECORD from M. B. Feldmann, vice-president and chief engineer of the company. Mr. Feldmann writes as follows:

"The American Gas & Electric Co., through one of its subsidiary organizations, has started construction of a steam power electric plant which, while it does not involve any new engineering applications of the principles of power plant design laid down in other large plants of this character, will, it is thought, present these principles in such a combination as will enable the plant, when completed, to produce current at a cost which is as low as, if not lower than, any other steam power plant in this country. The site is admirably located, being flat ground about 300 acres in extent, near Wellsburg, on the West Virginia shore of the Ohio River, at a point which will insure freedom from flooding except under extreme conditions, and even these will be avoided by elevating the essential portions of the plant to a moderate extent, which will enable the plant to continue operation during the highest known stages of the river. The elevation of the plant for protection against high water also has an advantage in that it provides for ample space for the disposal of ashes for years to come. The coal supply will be derived from a mine, the tipple of which will discharge coal directly at the plant. This mine has coal acreage of the highest grade No. 8 Pittsburgh coal sufficient to supply the plant with coal for from 60 to 75 years.

"There will be installed as the initial equipment nine 1250 horse-power (normal rating) water tube boilers equipped with automatic stokers, superheaters and economizers, the induced-draft system having been adopted. The coal and ash-handling equipment will be of the simplest possible description and electrically operated. The auxiliaries will all be motor-driven. The plant is designed for the ultimate installation of six 30,000-kilowatt turbines, but the initial equipment as at present planned will consist of two 30,000-kilowatt General Electric Curtis type turbines for operation at 250 pounds pressure, 200 degrees superheat and high vacuum. The characteristics of the output of the

generators has not been definitely determined so far as generated voltage is concerned, the probabilities being that this will be placed at 11,000 volts, three-phase, 60-cycle current.

"The most striking feature of the plant arrangement is the disposal of condensing equipment. The engineers propose to take advantage of the elevation of the plant above the river level by excavating condenser wells, which will be completely enclosed in concrete caissons, and the construction of intake and discharge tunnels of approximately 30 feet in diameter, whereby water from the river will be diverted to flow through the condensers, thus obviating the necessity of pumping large quantities of condensing water against a considerable head. It is not expected that during normal stages of water the tunnels will be completely filled; in fact, the reverse has been planned for, so that the intake screens can be reached from the mouth of the tunnel by men in boats should it be necessary.

"The function of this station is primarily to supply the current required by the Wheeling Electric Co. and the Canton Electric Co., and later the Ohio Light & Power Co., all of these being affiliated with the American Gas & Electric Co. The output of this station, however, will not be confined to organizations connected with the parent company, but it is expected will be sold to other public utilities operating within the commercial limits of transmission lines as well as to large continuous users of power, such as the steel mills and other similar industries located in the district between Pittsburgh, Youngstown, Canton and Wheeling. The transmission line between the generating plant and Canton will shortly be under construction, and will consist of a steel tower line carrying double circuits operated at 132,000 volts, and the extension of this line and other lines in different directions are now being planned by the company's engineers. The designing engineers of the plant are Sargent & Lundy of Chicago, but the construction will be carried out under the joint supervision of the designing engineers and the engineering department of the American Gas & Electric Co."

Chattanooga Builders' Exchange Elects Officers.

The Builders' Exchange of Chattanooga held its first annual election last week, President F. B. Sloan and Vice-President A. F. Hahn being re-elected.

The following members were elected to serve on the board of directors: Mark K. Wilson, R. L. Westcott, John G. Pope, Charles M. Willingham, F. H. Cantrell, Gus A. Wood, F. J. Howard, W. S. Holmes, D. H. Wood and W. E. Love.

The exchange is in splendid condition financially and has a thoroughly representative membership of building interests in Chattanooga.

Plans are under way for a broader development of the building interests of the city through the exchange, and efforts will be made for the extension of Chattanooga building enterprises into the markets of other cities throughout the South. Through the efforts of the exchange the Society of Chattanooga Architects has agreed to adopt the standard documents as recommended by the American Institute of Architects and the National Association of Builders' Exchanges.

At the meeting it was decided to have the exchange appropriately represented at the annual convention of the National Association of Builders' Exchanges, which meets in Baltimore next February. J. L. Snoddy is secretary and treasurer.

Charlottesville's Financial Growth.

A few figures compiled and submitted by Frank M. Bunch, secretary of the Chamber of Commerce, Charlottesville, Va., indicates the healthy condition of that city's financial institutions and the marked increase and total resources and deposits at the present period as compared to the years 1905 and 1910:

| | Deposits. | Total resources. |
|------------------------|--------------|------------------|
| 1905 (September 1).... | \$922,045 93 | \$1,260,547 84 |
| 1910 (September 1).... | 1,268,975 92 | 1,878,651 72 |
| 1915 (December 1).... | 3,200,059 65 | 4,550,131 12 |

Welfare Work in a Virginia Mill: Typical of Spirit of Many Mill Towns

[Special Correspondence Manufacturers Record.]

Danville, Va., December 18.

The decision reached by the Riverside and Dan River Cotton Mill Co., Inc., to build a \$50,000 Y. M. C. A. building for their 6000 employees at Schoolfield, a suburb of this town, has created wide interest throughout the State of Virginia, for it is the first industrial institution of its kind to be dedicated to cotton-mill community in the Old Dominion. Ground was broken for the foundations over two weeks ago, and it is anticipated that Messrs. H. A. Osborne & Son, the contractors, will have the building ready for occupancy by May, 1916.

The growth of the Riverside and Dan River cotton mills during recent years is a prized chapter in local history. Danville is rightly a tobacco town—it has the largest bright loose leaf tobacco market in the world—but it also has one of the largest cotton mills, the size of which can be estimated when it is said that this year's total output will represent \$8,000,000 worth of cotton goods.

The company has two plants about three miles apart, the Riverside Cotton Mills, the first of which was built in 1882 with 3000 spindles, and the Dan River Cotton Mills, which are situated in Schoolfield, or a quarter of a mile beyond the city limits, in Pittsylvania county. Schoolfield six years ago had nothing out of the common with other mill villages scattered throughout the South, but today it is a town with its own modern public school, churches, stores and a multitude of prim little company houses flanking the eminence upon which the great plant stands.

Today the plants owned by the company represent an outlay of \$10,000,000, the Schoolfield mills costing \$7,500,000 and the Riverside Mills, which are situated along Dan River, in the heart of Danville, representing \$2,500,000. The total number of spindles is 330,000. There are 5800 employees. The total floor space of the combined mills is 56¹/₂ acres. There are 10,772 looms of various makes, Crompton-Knowles, both plain and automatic, Draper automatics and Stafford automatics, which turn out a high grade of goods which have made for themselves a mark in the Northern markets. At Schoolfield, dress ginghams, chambrays, shirtings and wide sheetings are made, while at the Riverside, plaids, cheviots and chambrays are produced. The company, which is capitalized at \$8,500,000, pays dividends semi-annually.

The accompanying illustration gives but a faint

conception of the size of the Schoolfield plant. It is a bewildering mass of inter-communicating buildings. It has nearly as much breadth as the length shown herewith, a new mill having recently been built and put into commission.

As the plant began to assume its proportions the officers of the mill company began casting about for a plan to make the spare hours of their hundreds of employes more enjoyable. Welfare work was undertaken before the last three mills were built, and a kindergarten and day nursery were started in charge of competent teachers and nurses and features were added here and there until today the company annually spends \$10,000 for this work alone. There are now 25 people engaged in the welfare work, and the public school, which is operated nine months in the year by the State and county, is kept open by the mill authorities during the remaining three months, the cost of its operation being undertaken by the mill.

The new Y. M. C. A. had its inception two years ago, when a committee was appointed to report on the advisability of erecting such a building for the male members of the community. This committee journeyed to several places to see what welfare work was being done in other cotton-mill towns, and by degrees the plans were worked out until the Y. M. C. A. assumed a concrete form. Not many months ago Mr. S. A. Ackley, State secretary of Y. M. C. A., was called into conference, and he readily endorsed the plan, giving the cotton-mill company valuable aid in the formulating of the plans. Finally an appropriation of \$40,000 was made for the building, but it developed that this sum would not put up a structure commensurate with the needs of the community, and an additional \$10,000 was thrown in.

The Y. M. C. A. will be situated on a five-acre lot a short distance away from the thickly-settled town, but ideally located. It will be a two-story structure of the mission type, rather suggestive of a great bungalow on account of its squat appearance, though covering a wide area. It will be 170 feet long, with two eaves running back from either extremity a distance of 112 feet. Built of red brick it will have an ornate frieze running its entire length, which will dispel the impression of monotony given by its unusually long frontage. The features of the building will be a large auditorium with a seating capacity of 1000, which will also serve as a

moving-picture theater with the necessary paraphernalia always in service; a large swimming pool, a roomy and well-stocked reading-room, dormitories and class and amusement rooms for both men and boys. The Y. M. C. A. will stand on a sloping piece of land, at the foot of which will be laid out tennis courts. Seen from the front, the building will have the appearance of having two floors only, but in reality the slope of the land in the rear affords space for a roomy basement, which will take in a large gymnasium, a swimming pool 42 feet by 65 feet, bowling alleys, lockers and bathing accommodation.

The length of the building will permit separate quarters for men and for boys, and on the first floor there will be large social rooms for juveniles and adults. The gymnasium will be stocked with modern apparatus.

The auditorium will measure 87 feet long and 42 feet wide. It will have a sloping concrete floor, at the foot of which will be a stage deep enough for amateur theatricals. At the entrance will be a foyer and cloak rooms.

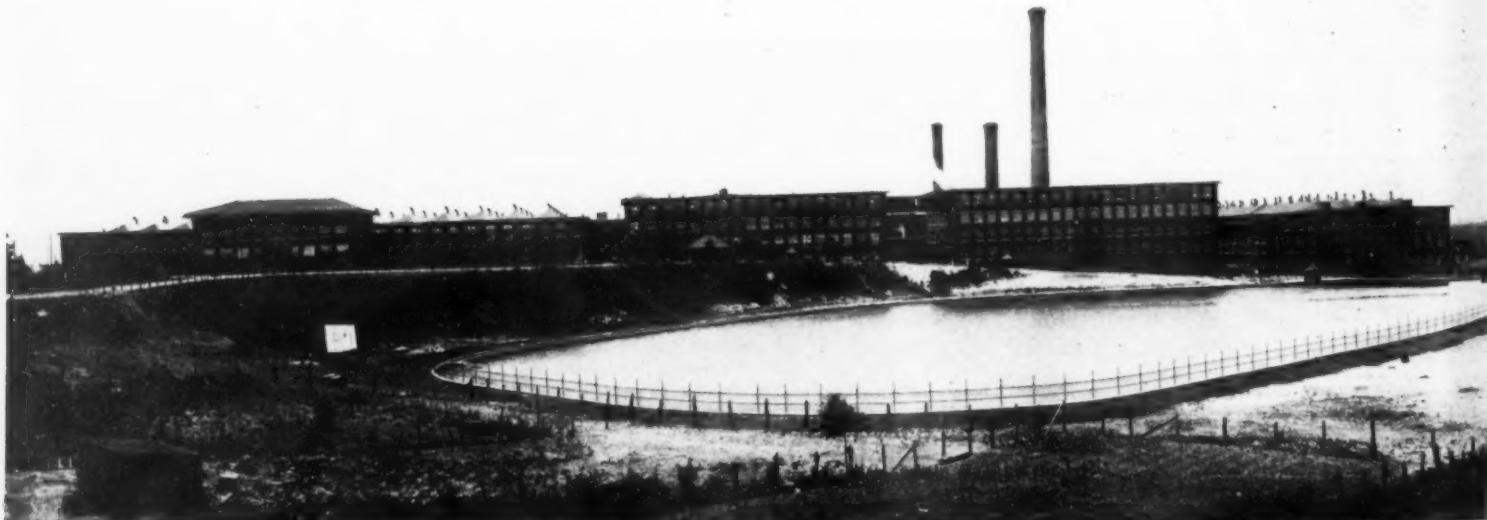
The second floor of the structure will be taken up with bedrooms, of which there will be 10, a kitchen, and several small clubrooms. The structure will be fireproof with concrete floors. The interior will be furnished in mission style, the floors will be of maple and some of rifted pine, and the entire building heated by vapor and electrically lighted.

The Y. M. C. A. will have a threefold object—industrial advancement, intellectual advancement and physical advancement, facilities which are rarely offered to the residents of mill villages. The religious element will be ever present in the Y. M. C. A., and while it will in no way be forced upon the members, there will be Bible classes enrolled just as in other institutions of this type.

While the Y. M. C. A. will be made as self-sustaining as possible, it is not expected that sufficient money will be raised from the small dues to be charged to pay for the operation of this new feature. The mill company will stand behind it in every way. The salaries of the general secretary and the physical director who will be employed will be paid by the mill company, though these officers will be under the management of the State organization.

Neither will the moving picture be operated from a commercial standpoint, for while there will be performances to suit all tastes, pictures calculated to improve the mind will predominate.

A few days ago Mr. Harry R. Fitzgerald, the secretary and treasurer of the company, whose ambition is to build an ideal mill community, stated that while the annual outlay for welfare work is great, there has never been any regret expressed, for this expenditure does



DAN RIVER COTTON MILLS AT SCHOOLFIELD, VA.—CONDENSING BASIN IN FOREGROUND.

incalculable good. Not only does it have its moral effects on the community in general, but it is reflected in the actual output of the mill. Welfare work is having a stabilizing influence on cotton-mill communities and the mill officials here have been quick to realize this. The nomadic disposition of so many cotton-mill families is gradually on the wane, and those who do leave Schofield, in most instances, after a few months return to settle down for good, this being in no small degree due to the efforts of the cotton-mill company officials to render the every-day life of the mill toilers more happy and more varied.

G. TETLEY.

ACTIVITIES AT TAMPA.

Industries, Commerce, Building and General Developments Make Good Showing, With Bright Outlook for the Future.

Tampa, Fla., December 18—[Special.]—Total shipments of cigars from Tampa for the year to the close of the week ending November 25 were 43,299 cases, or 36,495,000 separate cigars in round numbers. This exceeds by 49,985,000 cigars the total shipments from Havana, Key West and Porto Rico.

During the same period Porto Rico shipped 19,129 cases; Cuba, through Havana, 8561 cases, and Key West 3612 cases, the combined shipments totaling 150,510,000 separate cigars.

Despite business depression, Tampa cigar factories will wind up the present year with a bigger total output than ever before, according to a local manufacturer who is closely in touch with the situation throughout the city's manufacturing centers.

For the 11 months of 1915, up to December 1, Tampa has shown substantial growth in all lines of business. In the cigar industry this is particularly the case. The figures for the 11 months show a total manufacture of cigars in local factories of 264,555,000 cigars. This is against a total manufacture for 1914 for the same period of 252,466,000. The difference in the manufactured and shipment figures is accounted for by the heavy demand for small-lot shipments, which are not listed in case-lot quantities.

In the internal revenue department's local office there has been a steady increase, with the total increase being substantial and gratifying. For the 11 months of the year to December 1, total collections of the local internal revenue office were \$866,267.56. With the close of November business last year the 11 months' collections aggregated \$796,238.33.

Out of the 11 months' figures, the custom-house monthly collections show a gain during six of these over the corresponding months of 1914. Importations at this port probably have been less effected by the war than those of any other port in the United States. This is due to the large quantity of tobacco brought there from Cuba, which commerce has not been hurt by the general depression in shipping. The total custom-house figures, including November business, show \$1,691,120.16 collected. For the same period last year there had been collected \$1,704,124.75.

Customs collections for November were \$183,545.54, against collections of \$146,106.90 for the previous November. With a corresponding increase in December collections over the collections for the same month last year, 1915 will equal, at least, 1914 in customs collections.

Clearing-house figures for the single month of November show a gain of \$287,255.69 over the previous November. For the month just past total bank clearings were \$4,172,732.66, and for November, 1914, they were \$3,855,476.97.

The combined increases in collections for November in the custom-house, clearing-house, internal revenue department and postoffice total \$343,689.51 more than the combined collections for the same month of 1914. This is taken as a concrete evidence that "times" are better than at the same period last year, and that the season of prosperity, which has been talked of and dreamed of, has dawned.

Building records for November show almost double the amount spent for homes than spent during the same month of last year. Permits were issued for 44 residences 6 garages, 1 apartment building, 1 store and 1 fair building. A permit also was issued for one high school amusement hall. The total represented by the building permits for the month was \$100,355.

Forecasting the coming year from the last few

months of the closing one, the popular feeling is that 1916 will be a twelvemonth period of prosperity for this section of Florida. Enterprises already under way or contemplated, and which will be completed during the coming year, will swell the 1916 expenditure in this section, it is believed, to a figure far in excess of the total amount spent in building of all kinds during 1915.

Among the larger enterprises which are projected for the coming year is an interurban electric line connecting Tampa and Clearwater, with a track distance of approximately 25 miles. Another big improvement scheduled to begin early in 1916 is the \$170,000 brick highway paving project of Pinellas county. Others include immense drainage districts, the total acreage running into over a half million. During 1916 the Tampa Estuary project will draw near completion, and may be finished. The Government is preparing to put the dredge Barnard, now here, on this work, and the city is making ready to build terminals, which will include a municipally-owned railroad to serve all the piers and warehouses.

Taken as a whole, Florida, and especially South Florida, looks toward 1916 with expectant eyes, believing it holds prosperity in store and that this section will reap a rich harvest from the coming year.

ARNOLD HEIDT.

Magnificent New Elks' Home Nearing Completion.

Bedford City, Va., December 15—[Special.]—The magnificent national home here of the Benevolent Protective Order of Elks of America, now under roof, will be completed and dedicated in June of next year. It will cost, when completed and furnished, exclusive of the site, from \$500,000 to \$600,000.

The building of this home is an interesting factor in this year's construction history in Virginia, and its establishment in Bedford City, about 30 miles east of

Roanoke, is a distinct compliment to the climatic advantages of this section. For over a decade and a half the national home of this well-known fraternal society has been located here. Originally the old Bedford House and 100 acres surrounding it were secured and converted into an Elks' home. This sufficed until last year, when it was decided to build anew and for posterity.

The 72 members occupying the home were moved to Jeter Institute building, which was leased for the temporary quarters while the old Bedford House was being dismantled and carted away and the new home erected. Messrs. Ottenheimer, Stern & Reichert, architects, of Chicago, were commissioned to draw the plans, and in the summer of 1914 the construction contract was let to Pat J. Moran of Salt Lake City. Today the eight buildings forming the crescent-shaped group are, for the most part, under roof. F. J. Householder, representing Mr. Moran, is the superintendent in charge of construction.

The administration building dominates the group, it being the largest and in the center, with three dormitories protruding on each side, and the hospital building is in the rear of the main building. A 700-foot archway, paved with concrete and roofed with red Spanish tile, will connect all the buildings.

The main building is being constructed of reinforced concrete for the frame, pile curtain walls, white cement stucco for the exterior, and it is covered with red Spanish tile. It is two stories high, with a basement. The dimensions are 250x70 feet.

The dormitories are uniform in construction, all of them being, as is also the hospital, 100x34 feet, two stories and basement and constructed of the same materials as the main building.

Col. Carey L. Applegate of Owensboro, Ky., is the chairman of the Board of Grand Trustees of the Grand Lodge of the Elks, and it is to Colonel Applegate and his untiring energy that credit is given by the Elks of the country for the dispatch and thoroughness with which this work has been carried on. He and his fellow-Elks have given to the South a wonderful institution and to their indigent brothers a life-home second to none.

NEW GOVERNMENT BUILDING AT WINSTON-SALEM, ENTIRE COST OF WHICH WAS COVERED BY EIGHT DAYS' STAMP SALES.



FRONT AND SIDE VIEW OF U. S. POSTOFFICE BUILDING, WINSTON-SALEM, N. C.

Winston-Salem, N. C., December 15—[Special.]—The United States Government paid \$250,000 to have a postoffice building constructed for Winston-Salem.

Winston-Salem, within eight days after the building was occupied by the mail forces, paid \$250,000 for revenue stamps and in postal receipts to the United States Government!

This record, which stands out uniquely as a local one and has perhaps not been duplicated by any city of similar size in the country, was made possible by Winston-Salem's great tobacco industry. Last year

the local tobacco manufacturers bought nearly \$7,000,000 worth of internal revenue stamps, and it is estimated by Postmaster R. S. Galloway that this year's receipts will run between \$7,000,000 and \$10,000,000.

The Winston-Salem postoffice, as will be seen from the illustration herewith, is a very pretentious and attractive building. It contains approximately 17,000 square feet of floor space; is 180 feet long by 80 feet wide; was constructed of Indiana limestone. Construction was begun in November, 1913, and it was occupied in July, 1915. The Wise Granite Co. of Richmond had the contract for the building.

"No State Ever Arose to Greatness That Was Not Commercially Great"

[Special Correspondence Manufacturers Record.]

Pascagoula, Miss., December 16.

Since 1896 there has come into prominence in this country, and especially the South, a marked antagonism to commercial corporations, which when reduced to its final analysis is nothing more or less than class hatred. An example of this I saw lately in the Mobile Register, where someone living in Mississippi wrote that paper opposing its advocacy of the President's plans for preparedness because, as he stated, the raising of a large standing army would only benefit the rich and put in the hands of the large corporations a means by which they could oppress and enslave the laboring man, and that this is what would follow.

That such a statement is silly passes without saying, but the fact that such opinions are held—and it is the opinion of the majority of the Bryanites with whom the writer has conversed—shows that the body politic is suffering from a baneful malady that should be eradicated. And there is only one medicine for such a disease—education, educating the public into having a more enlightened and healthier outlook upon public affairs. This outspoken antagonism and fear of corporations and men of wealth would not be of much consequence but that it finds a concrete expression in the laws upon our statute-books, confessedly made in a hostile spirit to corporations; and then again, it is cunningly made use of by unscrupulous politicians, who unceasingly labor to keep alive class hatred, as by it only can they obtain lucrative offices, for which they have no fitness and which they could never attain on their own merits. The men that encourage this antagonism to corporation and class hatred are the enemy of "the people," for they do not see or do not want to see that their vicious propaganda is not only intensifying class hatred, but is also retarding development of the South and injuring the material welfare of the people, for the benefit of whom it is pretended that it is carried on.

The corporations of the land are organized by men who have associated themselves together for the purpose of acquiring wealth through industrial or commercial enterprises; philanthropy does not form any part of their undertaking. If their venture is successful they give employment to a large number of persons who otherwise would be wholly or partially idle throughout the year, and the additions to their incomes which they receive finds its way to the small shopkeepers and from them to the farmers and manufacturers, and so adding to the material comfort of many thousands. The greater a quantity of business that a corporation does and the larger its profits, the greater is its demands for raw material and labor by the increasing of its capacity of its plants, and the larger will be the demand it will make upon the common carriers for the transportation of material to and from its works. In short, there cannot be such a thing as material prosperity among "the people" unless the great industrial and commercial corporations of the land are making money, and every act of legislation or public policy that puts a check on its earning power or materially reduces its profits to its stockholders brings hardships upon the masses, which are the foundation of industrial life. If the corporation is not a money-maker it will reduce its demands for labor and raw material, which affects all classes of society, thus showing that the interest of corporation and of "the people" are interdependent, and that instead of antagonism there should be co-operation.

As an illustration of our argument, we will refer to the present disorders in the neighboring country of Mexico. Whenever in conversation with a Bryanite we have expressed the wish to see anarchy suppressed and order restored in that unfortunate country we have always the same answer: "Oh, let them fight it out; it is no concern of ours. The putting down of the revolution will be of no benefit to anyone save the Standard Oil Co. and the Pierce Oil Co. Rich men are interested in it, but the poor people of this land are not interested in the matter." No more fallacious argument was ever advanced. The poor people of this land as well as the rich are deeply interested in seeing order restored and a lasting peace in the land.

Suppose, for the sake of argument, we would admit that the disorders originated through the greed of certain capitalists who wished to control the oil fields, and that they are seeking to make many millions for themselves. The men that take this view fail also to state that the restoration of order, even though it did add to the profits of the oil companies, would also open up again the channels of trade, the industries of Mexico would take on new life, and as the Mexicans would have more products to sell, they would, through the natural inclinations of men who have money, be in the market for those things which we have to sell. By restoring trade and industry, Mexico will increase its own wealth, and by its demands for the products of our own land do much to increase the prosperity of this nation, and especially of the South.

This is a rather selfish and unidealistic way of looking at the problem, and so I intend it; but then the writer is not a disciple of the grape juice school of political economy, but of that of Adam Smith and John Stuart Mill. It is rigidly utilitarian, giving no thought to the impossible, barely considers the probable, and bases its foundations only upon the feasible. The ideal has no place in it, only so far as the ideal is to be attained through the slow and safe process of industrial progress, keeping in mind the maxim of Horace, *festino lento* (hasten slowly). It presses forward not by revolution, but by evolution.

"Commerce increases industry," says that profound and original thinker, David Hume, "by conveying it readily from one member of the State to another and allowing none of it to perish or become useless. It increases frugality by giving occupation to men and employing them in the arts of gain, which soon engage their affection and remove all relish for pleasure and expense. It is an infallible consequence of all industrious professions to beget frugality and to make the love of gain prevail over the love of pleasure. Among lawyers and physicians who have any practice there are many more who live within their income than who exceed it or even live up to it. But lawyers and physicians beget no industry, and it is even at the expense of others that they acquire their riches, so that they are sure to diminish the possessions of some of their fellow-citizens as fast as they increase their own. Merchants, on the contrary, beget industry by serving as canals to convey it through every corner of the State, and at the same time, by their frugality, they acquire great power over that industry and collect a large property in the labor and commodities which they are of the chief instruments in producing. There is no other profession, therefore, except merchandise, which can make moneyed interest considerable; or, in other words, can increase industry, and, by also increasing frugality, give a great command of that industry to particular members of society. Without commerce, the State must consist chiefly of landed gentry, whose prodigality and expense make a continual demand for borrowing, and of peasants, who have no sums to supply that demand. The money never gathers into large stocks or sums, which can be lent at interest. It is dispersed into numberless hands, who either squander it in idle show and magnificence, or employ it in the purchase of the common necessities of life. Commerce alone assembles it into considerable sums, and this effect it has merely from the industry which it begets, and the frugality which it inspires, independent of that particular quantity of precious metal which may circulate in the State."

We have used this rather long quotation because it shows better than any argument that we can invent the moral of our essay. The South has been and is to a great extent now mainly an agricultural land, cotton being the principal article of production. Throughout the agricultural belt more than elsewhere we find that antagonism to corporations and the class spirit which, in our judgment, does much to retard the progress of the Southern States. Agricultural pursuits are by no means to be neglected; on the contrary, they are to be encouraged and fostered, but the South must learn that she can never reach the fullness of her development until she has learned to transform her own raw mate-

rial into the finished product. By doing this she "not only keeps the money at home," as the phrase is, but adds much to the moral wealth of the nation by breaking down that class spirit and antagonism to wealth so noticeable among little men and little States. No State ever yet arose to greatness that was not also commercially great.

"The greatness of a State," says the extraordinary writer from whom we have just quoted, "and the happiness of its subjects, how independent soever they may be supposed in some respects, are commonly allowed to be inseparable with regard to commerce, and as private men receive greater security, in the possession of their trade and riches, from the power of the public, so the public becomes powerful in proportion to the opulence and extensive commerce of private men."

Men who control vast corporate wealth are hardly likely to seek locations for their investments in communities or States where the public shows by its legalization or the voices of its public men that it has a feeling of hostility toward wealth and corporations. On the contrary, the South must abandon its hostile attitude and cultivate the commercial spirit, which is nothing less than the spirit of co-operation, as commerce and industry can only flourish in those States where they meet with the favor of the public as is shown in its attitude toward them as expressed in its laws.

CHAS. E. CHIDSEY.

Mayor Littleton's Description of Attempts to Remove a Handicap to Chattanooga's Development.

Chattanooga, Tenn., December 10—[Special.]—As the Nashville, Chattanooga & St. Louis Railway Co., lessee of the Western & Atlantic Railroad property in Chattanooga and in Georgia, from the State of Georgia, has moved its freight yards from a former location in the heart of Chattanooga to a new site outside of the city, the local people are deeply interested in the possibility of removing the tracks that now only hold numbers of "dead" freight cars, and thereby open it for new business streets and business property.

As this matter is receiving much attention in Georgia, where the solons of that Commonwealth are now in session, the keenest interest is manifest here over the proceedings as they affect the local holdings. A "W. and A." commission has been appointed, which will make a new lease for the State's property, and Chattanooga people are hoping that it will, in its investigations, find it practicable to accept a very liberal offer made by a local capitalist for either leasing or selling outright before the new lease is made.

In an interview for the MANUFACTURERS RECORD, Mayor Jesse M. Littleton of Chattanooga, one of the chief factors in the fight to have this valuable property opened up for commerce, said in substance:

"Chattanooga is reaping the fruit of a policy of liberality to public service corporations during its primitive existence, when its people failed to adequately measure its future growth and provide therefor, but the beneficiaries of that liberality are now, it is believed, about to remove an obstacle which stands in the way of growth of Chattanooga. I refer to the possession of a large tract (14 acres) in the very heart of Chattanooga by the State of Georgia (proprietor of the Western & Atlantic Railroad), and held under lease by the Nashville, Chattanooga & St. Louis Railway Co. This tract of princely value has for years blocked the expansion of the commercial district of the city, and at the same time has yielded to the owner practically nothing in returns, as compared with its possibilities. In common with all our thinking people, I have been puzzled at a policy heretofore on the part of able and intelligent officials of the State of Georgia that would permit three or four million dollars' worth of real estate in the very heart of one of its road's termini to be utilized merely as storage ground for decaying freight cars and for switching purposes. This policy has been pursued despite the fact that suitable property for terminals has been available at the city's outskirts all the time, and at prices consonant with such use. We are all pleased with the information we now get that Georgia's present officials are awake to the situation and expect to give Chattanooga relief and at the same time allow Georgia's property to show its real worth."

"This nuisance, located within a stone's throw of the city's largest hotels, within a block or less of the Federal building, the municipal building and the busiest sections of Market street, the city's principal business

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thoroughfare, constitutes the problem, now years old—that of 'opening Broad street.' For, let it be understood, the storage yards of the Western & Atlantic Railroad and of its tenant, the Nashville, Chattanooga & St. Louis Railroad, exist as an abrupt and altogether astonishing cut-off of Broad street, which extends nine blocks, 125 feet in width, from the Tennessee River southward. This street would constitute the city's financial district were it opened on southward, and its southern extremity would be a profit-yielding jobbing and manufacturing district were it not for the existence there of the smoky and altogether forbidding yards of these two railroads. And the State of Georgia would now be realizing a lease income of \$160,000 per annum, a responsible citizen of Chattanooga having made such an offer in writing to the State of Georgia five years ago, had not the misinformed officials of that State stood adamant against a removal of those yards.

"Broad street, paved, busy and beautiful throughout its extent of nine blocks, should be extended southward at least six more blocks in order to divide the heavy traffic of Market street, now the only direct artery from the north to the south in this city. In addition the street, correctly named, should divide with Market street the housing of big concerns, and thus relieve the pressure of inordinately high rents in some quarters. But this can never be done until the officials of the State of Georgia really are awakened to the interests of their State and become willing to accord fair treatment to this border city. If the result cannot be brought about in this reasonable way, then the only remedy for Chattanooga is condemnation, which could be made to cost the city a very large sum, and naturally generate bad feeling between the good people of Georgia and our own citizens.

"It has been more than 30 years since the then city officials of Chattanooga bottled up Broad street. They are to be excused, perhaps, by the impossibility at that day of realizing the future growth of Chattanooga and its important commercial position as known country-wide today. The Western & Atlantic then had tracks extending the length of Broad street to the Tennessee River. In fact, it was called Railroad street. The city authorities were having trouble in having paved and extended Georgia avenue, and they wanted the railroad tracks on Railroad street removed. After some litigation an agreed decree was put down in Chancery Court giving a right of way through Georgia avenue, surrendering on the part of the railroad all claim to Railroad street and conceding some minor advantages to the city. On the part of the latter it was agreed that Broad street was to be perpetually closed at 9th street, and that the city was to never undertake an extension thereof south of that line. That was probably looked upon as a victory for the city at the time, but the railroad people looked farther into the future and now they, as well as all our people, realize they got much the best of the bargain. In truth, so much the better of the deal did the State of Georgia realize then, that it is probable that a court of equity would undo the whole transaction, as one against public policy as being ultra vires, and for other sound reasons.

"I have no doubt that Chattanooga's best chance to secure a removal of this blot in its very center, which only the opening of Broad street can accomplish, is through arbitration. And I can see, I think, during the coming two years this city's great opportunity. The lease of the Nashville, Chattanooga & St. Louis Railroad upon the property of the State of Georgia is about to expire. A renewal of that lease, or a contract with some other company, can be made conditional upon location of terminals outside the heart of the city and a reserving of the property in question for disposal by the State of Georgia by sale or lease for commercial purposes. Such a policy, the people of Georgia well know, would be productive of vastly more revenue for the State. In addition, the years of education in that State as to the conditions here have had the effect to create friends for Chattanooga in all sections of Georgia, who are being heard from at times of elections. Georgia can, and will, no doubt, solve Chattanooga's Broad-street problem.

"Whatever is done will be done with the best of feeling between the people of Chattanooga and the citizens of Georgia, and it is hoped and believed that we shall soon have an end of the unsightly and noisome nuisance about which so much has been spoken and written."

Roy G. BOOKER.

Making Over Brain-Workers in the South

By J. MADISON TAYLOR, A.M., M.D., Philadelphia, Pa.

Associated Professor Treatment of Diseases by Other Means Than Drugs; Medical Department, Temple University.

I.

The South is peculiarly qualified to supply advantages destined to become increasingly appreciated.

As a winter playground for fashion, for recuperation of the jaded and the idle rich, it is established. It is capable of a higher destiny, that of affording most favorable conditions for both restitution, making over and fitting for continued work, suited to that much more important group of intellectuals, scientists, thinkers, professionals. In no other sphere can the Gulf States do more good.

American brain-workers labor at disadvantages in many particulars. At home they are subject rather more than others to constant stress, hurry, burdens, but, above all, to extremes of temperature and confusions of weather, far in excess of those of Europe. They have learned to do a lot of things so well, they do far too many useless and varied things. The one urgent need for them is to *unlearn* overdoing, wrong, hurtful, uneconomic doings. Among these are errors of the way they work, the habit of frantic over-action.

II.

To a majority of intensive brain users there comes a time when they are overcome by excessive strains, also by provoking weather changes and other causes for depression. The quality of their mental product is thus impaired by severe drains on nervous energy such as interruptions. The time has then come when the one thing needful to aid in assembling their findings, to put them together, is opportunity for taking a quiet long view of things. Moreover, it is important to meet and confer with others working in similar lines.

This can be best done while under favorable external conditions, the chief of which is open-air life. An ideal climate is needed. This includes an average temperature of 60 degrees F., which means a range through the day of from 50 to 70 degrees is the best for men to work in. Together with such an average there must come daily changes of from six to eight degrees in order to preserve a constant incentive to work.

People work more slowly also when the climate is dry, which is a reason why efficiency falls off in winter. The excessive house dryness induces colds, catarrhs, irritations of throat, eyes and bronchial tubes. Excessive indoor humidity, also accompanied by dead, stagnant air, with too much clothing, militates against mental alertness. Both body and mind thus becomes relaxed, readily fatigued, lethargic.

III.

In order to get the best output of the brain, the body must be maintained at its top notch. Functions of mind and body are intimately correlated. Recovery from diseases (notably those infections which exhaust, such as e. g. tuberculosis) is to be secured only, or at least best, while the sufferer lives or breathes the air of outdoors, night and day.

The same holds true of the whole group of fatigue maladies, brain fag, the asthenias and most forms of derangements of metabolism, notably so-called "rheumatic disorders," goutiness, neuritis and the like. Brain-workers are made of the same materials (good and bad) as the average of mankind. Among them are found constitutions no better than their fellows. As individuals, however, they are of far higher value to humanity than the tread-mill toilers, worthy persons of subordinate importance to that smaller group who do the thinking of the world. Willing workers notoriously sacrifice themselves by self-overloading, hence often enough break down prematurely. Their fundamental requirement is to be taught to let go, to relax overtension in body, whereby alone can they achieve serenity of mind, repose.

Let us consider how to conserve this group, to enhance their value, to amplify their survival values.

The largest group of degenerative conditions which

affect brain-workers, scientists, literary and intensive industrial energizers, is diseases of the heart, blood-vessels and kidneys. About one-fourth of all deaths arise from them. The ultimate giving out of life force comes by this avenue, no matter what the acute conditions. Climate is the chief factor in repair, along with open-air life.

IV.

A period is often reached in full maturity or in early senescence wherein capabilities for intensive effort of the physician and other brain-workers begin to waver; he becomes less fit to put forth his earlier eager energies; his competition with the powers of destruction is fiercer and his vigilance slackens.

Dr. Van Bibber of Baltimore strongly recommended, before the American Medical Association thirty years ago, a plan to found an ideal health city for physicians, and selected the Pinellas Peninsula, Fla., as fulfilling required conditions. At that time transportation facilities were so crude as to make it impossible. A plan is being brought to maturity to organize an ideal recuperation center, club, or health village, on the Peninsula, similar to the Garden Cities of Europe, for physicians themselves and their chosen clients. Already much encouragement has been given by those approached.

It may be of interest to readers of the MANUFACTURERS RECORD to learn the aims of this enterprise. It could be multiplied by others elsewhere. One of the chief purposes is the systematic restitution of the conservators of public health (physicians), a restoring them to mental and physical efficiency.

V.

I am planning also to institute there systematic courses in Reconstructive Personal Hygiene. This will include a thorough searching of all existing factors of weakness, all sources and origins of lowered health, losses in efficiency, and to repair as well as practicable the organism as a whole.

I purpose availing myself of the choice experts in clinical medicine among members of the association, of our laboratories, hospitals, and to secure experts in physical training, massage, in outdoor sports, fishing, golfing, agriculture and the like.

A course will be carefully outlined consonant with the conditions found in each (physician or layman) and in accord with the time at his disposal to do as much as circumstances permit. In this it will be possible, in accord with my past experience, to institute a series of procedures which often result in unexpected gains, restoring to pristine powers of mind and body as well. They will thus not only gain in organic competence, in capacity for restfulness, for sleep, for diurnal restitution, but also they will thereby become far more accurate in all games of precision, such as billiards, golf, tennis, etc.

Mental efficiency is so closely associated with physical vigor that I expect thus to contribute to the welfare of widely separated communities. The courses will be not alone to restore individuals, but to afford object-lessons, a practical education in reconstruction to be carried back to those in their home-keeping. It is my conviction that such measures are not as yet adequately appreciated by physicians.

Nothing so impresses the consciousness as personal familiarity in the actual performance of constructive and reconstructive measures. This will achieve far more than the reading of many books or listening to lectures.

Success will depend most largely on the degree of willing and intelligent co-operation in the doing.

The South in winter is the place and the time to lure the middle-aged, the over-wrought, the jaded brain-worker and to teach him "to live abundantly," to reorganize himself on bettered lines, thereby learning how to do for himself, and especially for his clients.

The Bulls and Bears of Southern Corn

By A. JEFFERS, Oceana, Va.

In a letter to the editor of the Manufacturers Record, Mr. Jeffers of Oceana, Va., in submitting the following interesting article, takes occasion to say:

"With each succeeding issue of the Manufacturers Record wife and I find ourselves wondering how you manage to dig up so many resources, and find ground for saying so many good things and truthful things in regard to the 'Sunny South.' You must sit-up-o'-nights to do it—to get at the solid, substantial facts, figures and features in such variety and abundance.

"Your facts are incontrovertible; your logical conclusions and reasoning entirely conclusive, and your arguments irresistibly convincing."

The MANUFACTURERS RECORD shows up in most interesting language the Bulls and Bears of Business throughout the "Sunny South." The photos herewith show up the "Bulls and Bears" of Southern corn. Corn is rapidly forging its way to the front and it is soon to be "King Corn," and "King Cotton" must be content with a secondary or cabinet position.

The corn club boys, under the management of the hundreds of county agricultural demonstration agents, are the bulls that are lifting and "tossing" the productive corn figures of the South higher up year by year, while the bears in the photo are right out of the Great Dismal Swamp, in Eastern Virginia, and, like their two-legged kinfolks, spent their time in "pulling down" the corn.

The photos show a field of corn actually within the borders of the noted Dismal Swamp, with the demonstration "bull" in the foreground. Another photo shows the carcasses of two bears shot while engaged in "pulling down" the corn growing upon the same tract of land.

The field of corn is good for 60 bushels shelled corn to the acre, and that land has been growing corn for, lo! these many years; and the corn from this tract of land, even from this very field, patch or plat, has been going to Germany to be planted there for silage purposes. It is a splendid variety for silage corn, and is called the "horsetooth" variety. The grower, however, will have to find a market nearer home this year, as Germany is raising cane instead of corn these times—and the Kaiser isn't at all particular as to how he spells it.

Another item of interest to all true, earnest, zealous friends of the Sunny South is the fact that a corn club boy in Norfolk county, Virginia, last month carried off several prizes for raising 200 bushels and 40 pounds of shelled corn from one acre of land; and the best of it all

is this—he raised it at a cost all told of 11.75 cents per bushel. The corn club boy, under instructions from the Agricultural Department and from his county demonstration worker (the bull in the corn field), succeeded in growing dollar corn for less than 12 cents a bushel.

The average yield of corn in the United States is only 28.3 bushels to the acre. In Virginia it is 28.5 bushels, and the cost or average cost to grow Virginia corn is not less than 50 cents the bushel—perhaps 60 cents would be nearer the mark. And here is a boy 16 years of age who has raised almost eight times as much as the average yield of the State and nation and at less than one-quarter the cost. That's the work of the agricultural "bulls," and the best thing that can be said at the present time in regard to the Sunny South is this: The agricultural bulls are in the ring, and agricultural pursuits are being pushed, lifted, tossed up to their proper position.

From a half-dozen to 20 bear are killed yearly which have their homes or habitat within the dark and gloomy recesses of the Dismal Swamp, and the swamp is surrounded by corn fields where fine corn is grown every year. And as this unique body of land is approximately 15 miles wide by 40 miles long, it is quite impossible to entirely exterminate the wild animals who make their homes therein.

At the present time it is doubtful if at any other place in the United States the bear take toll from the farm crops and farm stock as in the case herewith presented, and that, too, within 20 miles of the great shipyards at Newport News, 10 miles from one of Uncle Sam's most important navy-yards, and only 90 minutes run from Norfolk with the auto.

All hail King Corn! Hurrah for the bulls of the cornfield! Down with the bears!

France Orders 85,000 Tons Rails from Maryland Steel Co.

An order from the French Government for 85,000 tons of steel rails has been secured by the Maryland Steel Co., Sparrows Point, Md., through its London representative. The rails will run 93 to 94 pounds, T shape. The Maryland company will distribute delivery over three or four months, as much other work will be in the mill at the same time.

The plant at Sparrows Point is being materially enlarged. Additions now under way consist of a machine shop and steel runway for marine department, shop 425 feet by 180 feet of brick and steel construction, general contract for which was let to P. J. Cushing, 217-19 St. Paul street, Baltimore, and a fabricating shop and molding loft about 600 feet in length of the same general character of construction. The Raymond Concrete Pile Co., Munsey Building, Baltimore, and New York, was awarded the contract for construction of foundations for both buildings. The estimated cost of these improvements is \$300,000. The company recently assured \$1,000,000 for improvements to the plant as occasion might arise.

We Wish Our Japanese Correspondent a Merry Christmas, Too.

SAJIRO TATEISHI, General Manager Tateishi Trading Co., Tokyo, Japan.

Your writing of October 11 to hand, and also often sending of your magazines, for which please accept our thanks. We further thank you for publishing our importing item in your magazines.

We see you are specialists for machinery, and we do not neglect to make inquiry whenever this question arises. But we need machines very seldom, as our chief line is of materials. We have sometimes inquiry from our customers.

Whenever we write to those people appearing in your magazine we always mention the source of information.

Once we were much interested in writing to American magazines and newspapers, chiefly on Japan's industry and commerce, but at present we are too busy for export, and we are not able to do this pleasant work.

P. S.—A Merry Christmas to you.



A CORNFIELD ENTIRELY WITHIN THE LIMITS OF THE SWAMP, "CORN BULL," COUNTY DEMONSTRATOR JEFFERS, IN THE FOREGROUND.



TWO BEARS KILLED IN ONE DAY IN A CORNFIELD WITHIN THE HEART OF THE DISMAL SWAMP, NEAR NORFOLK, VA.

News and Views from Our Readers

A Good Suggestion as to Road Maintenance.

JOSEPH HYDE PRATT, Secretary State Highway Commission of North Carolina.

The maintenance of our public roads is not only a serious question in North Carolina, but other States are confronted with the same problem and are trying to solve it. In West Virginia lumber wagons have been doing a great deal of damage to the public roads, and the county engineers are now putting in force an act recently passed at the extraordinary session of the last Legislature, which is as follows:

"Section 8, Chapter 5, of the Acts of the Legislature of this State, enacted in the second extraordinary session of 1915: Where it is required that persons, firms, etc., making continuous use of any piece of the county road, or driving thereon any wagon, etc., and by such use are causing more than the usual wear, such persons, etc., may be compelled to put thereon a section man or men and keep or assist in keeping said road in such repair as the court may order."

"Any person disobeying or refusing such orders shall be adjudged guilty of a misdemeanor, and upon conviction thereof fined not to exceed \$50, or imprisonment, or both."

This action of the West Virginia Legislature is a move in the right direction, but I am still of the opinion that the "wheel tax" method of furnishing a maintenance fund and of controlling the damage that vehicles do to roads is by far the more practical and effective one.

We tax all the people of the counties for the construction of roads, but it is the users of the road that should pay the greater part of the cost of the maintenance of these roads, and this will be accomplished by the "wheel tax," all the revenue therefrom being used for road maintenance and for no other purpose.

Vehicles will pay a "wheel tax" according to the amount of damage that said vehicle can do to the road. Thus a wagon capable of carrying 4000 pounds and with wheels having tires 2 to 2½ inches in width would pay a much greater tax than the same capacity wagon whose wheels have tires 6 inches wide. Then again, if the front wheel of such a wagon did not have the same tread as the rear wheels, the tax would be still lower. The heavier the load the wagon will hold, the higher, proportionately, will be the "wheel tax," and the wider the tire, the "wheel tax" will be proportionately lower. With automobiles the horse-power and weight of machine will determine the wheel tax.

An equitable scale of the "wheel tax" can be devised which will not work a hardship on anyone, and the revenues derived from it will maintain the roads.

Doing a Great Work.

GUY E. TRIPP, Chairman, Westinghouse Electric & Manufacturing Co., New York.

I think the MANUFACTURERS RECORD is doing a great work in bringing before its readers the vital necessity for an American-owned merchant marine. It assists in training the mind of the reader to the end that his vision is enlarged and will help him to escape from the provincialism which has and still does beset us.

Building Smelters in Oklahoma.

C. H. KELLOGG, Secretary Chamber of Commerce, Henryetta, Okla.

A five-block smelter has just been completed by the Nicholson Construction Co. three miles east of here. It is in operation, and employs, I am told, about 300 men. Another five-block smelter is being constructed by the La Harpe Smelter Co., and a third of five blocks, owned by the Oklahoma Smelter Co., is also under construction. One mile east of Henryetta is the new plant of the Henryetta Smelter Co., which started to build a two-block smelter and have the first two blocks almost constructed, but they are now arranging to add three more blocks. They have 157 carloads of material in transit to complete this addition. O. A. Oesterle is the manager of this plant. A five-block smelter is to be in-

stalled by G. F. Streich and A. F. Bondy of Cherokee, Kans., but I am not advised under what name they will operate. These smelters are attracted here by the fact that we have an abundance of natural gas, which we are offering to manufacturers at 3 and 4 cents per 1000 feet, and by the further fact that our coal is very cheap and an excellent gas coal. Frank C. Nicholson will soon start work on a brick plant of 100,000 daily capacity. Work is progressing on the grade for the new interurban railway which is being constructed by the Henryetta-Oklahoma & Western Railway Co. This road will connect the new smelters, the oil and gas fields and about 30 coal-mining camps with Henryetta. The line will be about 10 miles in length and will serve about 20,000 people.

South Florida Towns as Field for Building Operations.

JOS. HILL, Secretary Vero Board of Trade, Vero, Fla.

As a matter of interest to you as a builder-up of the South, I desire to call attention to a promising field for investment in Florida. I refer to the building of houses for sale or rent in growing towns throughout the southern part of the State particularly. The case of Vero furnishes a good illustration of the possibilities along this line. Three years ago this was a mere whistling point on the Florida East Coast Railroad, but the development of thousands of acres of fertile lands around it is bringing so many people to Vero that there are not enough houses and business buildings to supply the demand. People who would like to locate here permanently as well as winter residents are being kept away by the lack of houses, and there is also a pressing demand for business buildings.

Similar conditions exist in many other towns and cities of South Florida. It is a well-known fact that houses can be built more cheaply down here than in the North, principally for the reason that lumber is less expensive and no heating apparatus is required. Also the construction need not be so substantial as in colder climates. At a comparatively small outlay good houses can be built and made to bring in a satisfactory rate of interest on the amount invested.

In order to stimulate the building of houses to meet the requirements of the town, the Indian River Farms Co., the owner of many lots in Vero, is offering special inducements to builders, particulars of which may be had from the Vero Board of Trade.

Capital for substantial development is one of the great needs of Florida, and the situation as outlined above ought to help attract it.

Liked for Its Broad Views and Building News.

H. E. BOYD, Camden, Ark.

Enclosed find subscription to your very great journal. I like it all alike for its broad views and especially its building news, as I am a millwright.

TRADE OPPORTUNITIES IN JAVA.

An Astounding Demand for All Sorts of Up-to-Date Products Predicted With the War's End.

Interesting possibilities for American manufacturers, merchandise and novelties are to be found in Java, according to a letter received by the MANUFACTURERS RECORD from S. Runedios, 18 Slompprettan street, Sourabaya, Java. The letter points out, in addition to the articles for which market possibilities exist in Java, some marketing methods, etc., which Mr. Runedios suggests as very important features to be observed in building up and retaining trade with Java. An extensive list of articles for which a market might be created is included in the letter. It is interesting to note the variety and character of electrical machinery and equipment included, from which it appears that the most up-to-date products are desired. It is evident that

Java wants the very latest, most modern and most desirable things that any other part of the world is interested in.

According to Mr. Runedios, there will be an astonishing demand for American goods when the war is ended.

Mr. Runedios says:

"American manufacturers are not expanding their trade in the territory of Java, Sumatra and other adjacent islands to an appreciable degree, whereas there are splendid opportunities here for a great variety of goods, machinery, etc., of the latest invention or manufacture."

"It should be remembered that commercially Java is a very prosperous place and perhaps the richest country in the whole East. I am inclined to believe that after the present war there will be an astounding demand for American goods here in Sourabaya, which is the main import port, on account of scarcity of shipments from Germany, England, France and Belgium. Unfortunately, communications between here and the United States are at the present date inadequate and difficult on account of trans-shipment via Singapore or Hongkong, resulting in consequent delays of many days, but, according to reliable information, the Rotterdam Lloyd Steamship Co. will maintain a monthly service schedule, running from New York to Sourabaya, beginning this season."

"Furthermore, I would like to impress upon the manufacturers' attention the advisability of adopting an entirely new system, and with a new policy in dealing with foreign countries, in view of the keen competition among importers of other nationalities, who liberally extend all sorts of facilities to traders, thus controlling the market with their popular methods and scientific handling of the native trade. It is an undeniable fact that the foresight of the latter is very effective, and incidentally I should add that a great proportion of the business done by the foreign houses—German, English, Dutch or French—is due to the methods employed. Moreover, it is a well-known fact that the American exporters do not seriously regard these and other small details, which are very essential matters for capturing trade and retaining it permanently. I am convinced that all these requirements could be easily complied with, if your merchants and manufacturers are properly educated, and it is your opportunity to set them on the right track."

"For elucidation on this subject, I am pointing out to you a few hints in brief of what I have noted from actual experience, and this may perhaps prove interesting to your readers:

"First—it is imperatively essential and necessary that the manufacturers grant long terms of credit—say, at least, from two to four months—to dealers for the payment of merchandise account or meeting bank drafts, more particularly when dealing with Chinese merchants in any part of the Far East. The German and Dutch importers in Sourabaya generally extend their credits three to six months, but limit their trade discounts in the following manner, which are, according to my opinion, very sensible:

"For cash transaction they give a rebate of 6 per cent. off; three months' time, 3 per cent. off, and six months' time, nothing off. On the other hand, when they extend six months' credit, they add 4 per cent. on the cost price of the goods. On cloth they generally sell to the Chinese dealers for cash, with 1½ to 2 per cent. discount, and sometimes they extend one month's credit.

"Second—all the goods sent from America to foreign countries should preferably bear the labels and literature printed in the prevailing languages of the country, and for the Dutch East Indies the official and commercial languages are exclusively Dutch, Malay and Chinese. A combination of these three, written in the advertising matter, would be the right idea of propaganda. Special care and attention should be given in the matter of preparation, cleanliness, fancy wrapping, attractive boxing and outside casings; but the packing must be compact, with cloth-lined paper, and in certain instances, when the contents are of delicate fabrics, such as linen, curtains, etc., tin cases are put within in order to avoid deterioration.

"Third—a great ignorance still prevails in the United States about the customs of the people; the majority of the class of inhabitants living in each town, whether Chinese, Malay, Javanese or Filipinos; what they eat, how dress and live, and last of all, what they need most. Besides, in many instances great carelessness is noticed with regard to postage. Many letters from the United States have reached their destination taxed for

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postage, for the senders have neglected to put enough stamps on. Letters for foreign countries require 5 cents gold, instead of 2 cents. All these unintentional faults should be eliminated; they tend to create the impression that the merchants are given to shiftless practices.

"The list of goods that may be sold in the market of Java includes all sorts of novelties and newly invented articles, as, for instance: Roll-top desks and revolving typewriter desks, special labor-saving devices for office or industries, time clocks with puncher for registering the ins and outs of motor hire, time clocks for factories, night watchman record clocks, alarm clocks, "The Starter" for eight days' self-setting, as sold by Montgomery, Ward Co., and Big Ben. (Please note the ordinary kind is not wanted. See Montgomery Ward's catalogue No. 83, latest edition.) All the above articles, with or without electric connections. Voltage in Sourabaya, 110 to 15 volts, alternating current.

"Electrical Goods—Instantaneous fire alarm, police alarm, portable one-minute water boiler, two-phase electric bulbs, clear and dark light for sleeping-room purposes, electric lamps for Chinese altar with a statue of about 50 cm. high (this may be represented by a pretty woman or other fancy figure made of bronze or dark color. Attachments of these lights should be installed for a high-tension power, giving a clear light of about 50 to 100 c. p.). Gas and electricity are both used. Electric washing machine, electric ice-cream freezer, ice-making machinery by electricity (portable size), electric barbers' head-cleaning apparatus, electric lampshade holders, electric massage vibrators, electric sign display outfits, and various others.

"Sundries, Miscellaneous—Red velvet plush barber chairs, paper towels, paper bags, wrapping paper (Manila or other variety), wrapping paper counter apparatus, special prepared cloth for cleaning wind shields (auto), auto duster (see cat. Montgomery, Ward & Co., 83 Fol. 534), auto dust defender, auto patchers, sectional library case (as sold by Globe-Wernicke), envelopes addressing machine, dentist's chairs, shoe trees for cleaning purposes, shoe polish, shoes of the best manufacture only, delivery motorcycle wagons, fire extinguishers, alpaca cloth (yellow color), rebuilt typewriters, adding machine (only standard makes desired), money-changing machine, special artistic price labels for the use of the shops, chewing gums and bonbons, candies of good quality, fashionable light silk hats for the tropics, nickel-plating apparatus (portable size) of moderate price for small dealers, street candy-making machine, street stereopticon, street one-minute picture camera (as sold by Mandel's), advertising novelties, dictaphones, aluminum goods, sporting goods, dumb bells and Whately exercisers of medium price for the Chinese boys, etc., magician table, electric human roulette, merry-go-rounds and other pastime outfits.

"The magician table must be of regular size for card tricks, with spring at the bottom of it for pulling new cards and dropping down the unwilling one. This may be done by means of a hole on the top of the table just wide enough to pass one or two cards only.

"If possible, send catalogues and samples of some of the above goods for a careful study.

"Another important point for consideration is the

making up of catalogues. When they are intended for distribution they should never bear the names of the manufacturer, otherwise the trade of the middlemen will be cut out. Other manufacturers are adopting this system, but it is not known, so far, in the United States.

"I hope to hear from various manufacturers in the United States, especially from those to whom I have made particular reference in this list. To save long correspondence and delay, I would suggest the manufacturers send me quotations, samples and catalogues immediately—if convenient, by the return mail—requesting them at the same time to be explicit in the terms they are able to offer. An exchange of communication between Sourabaya and the United States means a delay of 45 days through the regular route.

"For reference as to financial standing, please mention

the names of my bankers, the Hongkong & Shanghai Banking Corporation and the Chartered Bank of India, Australia & China, local branch."

The Cotton Movement.

In his report of December 17 Col. Henry G. Hester, secretary of the New Orleans Cotton Exchange, shows that the amount of cotton brought into sight during 139 days of the present season was 6,670,460 bales, an increase over the same period last year of 735,975 bales. The exports were 2,103,697 bales, an increase over last year of 67,773 bales. The takings were, by Northern spinners, 1,169,955 bales, an increase of 13,312 bales; by Southern spinners, 1,622,523 bales, an increase of 265,408 bales.

HOUSTON'S \$350,000 PORTLAND CEMENT PLANT—SOME OF THE MACHINERY TO BE INSTALLED.

[Special Correspondence Manufacturers Record.]

Houston, Tex., December 15.

Enterprises, some of them of national importance, are making arrangements to take advantage of the industrial facilities provided by the Houston Ship Channel, and are thus adding to the development of this splendid waterway. There has been marked activity during recent months, particularly since the inauguration of regular steamship service between New York city and the port of Houston.

Probably the most important project in its effect upon channel utilization is the plant of the Texas Portland Cement Co., now well under construction and to be completed early next year. This company not only appreciated the advantages of having a plant at the head of navigation where it could secure cheap rates and where it could economically handle its Southern business, but it proposes to take advantage of the opportunity to land the export trade of South and Central America, for which it will make a bid, and the channel will be used to bring the raw material inbound, and for its export and Atlantic coastwise trade.

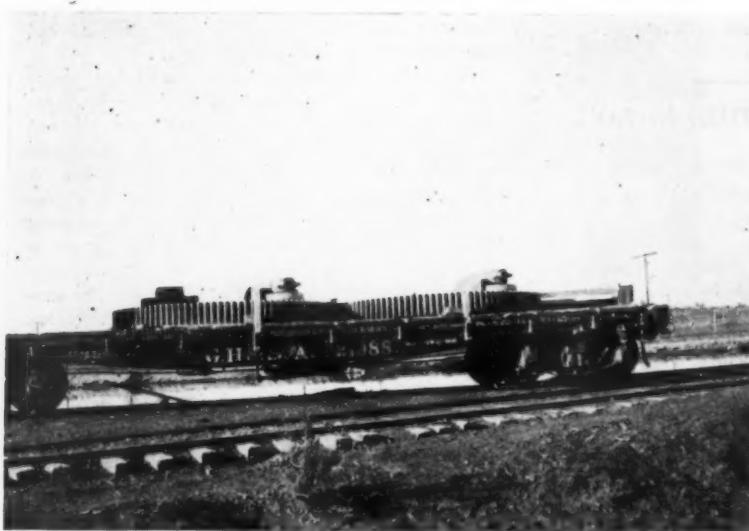
The company acquired 15 acres of land fronting 400 feet on the ship channel, running back 500 feet, and the plant will have a capacity of from 300,000 to 400,000 barrels of cement annually. Shell obtained in Galveston Bay will supply the lime ingredients, and clay will be secured from a deposit nearby. The shell will be brought up the channel by barge and delivered at the wharf, the capacity calling for the daily use of 250 yards. The material will be mixed and ground wet, Kominterns and tube mills being used for the raw material, as well as the clinker grinding, and the raw mix will be fed into a kiln 220 feet long and 9 feet in diameter, having a concrete stack 175 feet tall. Power for operating the mill will be furnished by Fulton-Tosi Diesel engines.

The cement will be stored in cylindrical concrete bins 32 feet in diameter and 60 feet high, there being four in number. All of the mill buildings will be of concrete and steel throughout, and will have both rail and water transportation facilities. A wharf is also

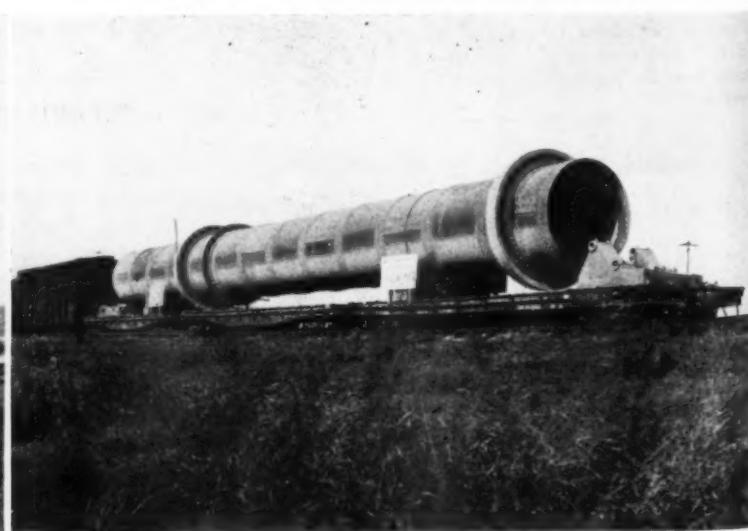
under construction, from which the cement can be loaded into vessels for export. The completed plant will represent an expenditure of \$350,000.



REAR VIEW OF THREE-CAR SHIPMENT, KILN MACHINERY, FOR HOUSTON PLANT.



KILN GEAR WHEELS AND SUPPORTS FOR HOUSTON PLANT; WEIGHT 30,000 POUNDS.



VIEW OF THREE-CAR SHIPMENT, KILN MACHINERY, FOR HOUSTON PLANT; WEIGHT 146,000 POUNDS.

Big Hydro-Electric and Aluminum Projects Reported for East Tennessee

[Special Correspondence Manufacturers Record.]

Knoxville, Tenn., December 15.

Chas. E. Sudler, engineer for the Aluminum Company of America, said to be controlled by the Mellon interests of Pittsburgh, where the company has its main offices, is at Alcoa, Tenn., 45 miles south of Knoxville, where the company will erect the first of a series of hydro-electric plants for use in the smelting plant at Maryville, 14 miles south of here. The company now has a large plant there, employing 500 to 600 men. This Maryville plant is on a tract of 700 acres, which is apparently being reserved for a great plant, there being no commissary or houses for the workmen on it, and on which, according to a recent statement of the company, none will be placed.

It is believed here that the building of the first hydro-electric plant is but the beginning for a vast development in the Knoxville district. This company first bought the water rights of the Knoxville Power Co., whose charter it retains. Later, riparian rights for 40 miles of the Little Tennessee River were purchased, extending into North Carolina. After extensive surveying it was found that the old right of way of the Southern Railway, unused from Chilhowee, Tenn., to Fontana, N. C., which was to be a part of the Bushnell extension from Knoxville, would be overflowed if dams were built by the Aluminum Company. After considerable negotiation it is said that the Aluminum Company paid the Southern Railway \$500,000 for the prospective damage and necessary elevating of the right of way if the dams were built, and agreed to pay an additional \$500,000 if the railroad ever built upon its right of way. There is said to be a maximum

of 400,000 horse-power in the 40 miles of river rights possessed by the Aluminum Company.

Engineer Sudler has announced that the Southern Slate Co. is making preliminary preparations at Chilhowee, 43 miles south of Knoxville, the terminus of the Tennessee & Carolina Railroad, a subsidiary of the Southern, to build a cement plant to make cement for the erection of the dams of the Aluminum Company, which dams it is believed will be begun early in 1916. The slate company is probably controlled by the Aluminum Company.

Alcoa, where the first dam is to be built, is three miles beyond Chilhowee, and several contractors figured on building this three miles several weeks ago, and the contract will probably be let at once.

When recent announcement was made that the Aluminum Company of America had taken over the Whitney interests in North Carolina, east of Salisbury, it was feared that it might change the plans of the company in the Knoxville district, but apparently it has not, and with aluminum soaring from 18 cents to 60 cents in the last few years, and with automobile builders using more and more of it in automobile bodies, it seems certain that the company will develop both the Tennessee and its North Carolina interests.

At the present time the Aluminum Company secures its electrical power from the hydro-electric plant at Ocoee, 78 miles south of Knoxville, owned by the Tennessee Power Co. Electricity is largely used in the smelting of bauxite, from which the aluminum is extracted; hence the move of the Aluminum Company to build its series of hydro-electric plants on the Little Tennessee.

J. R. WILLIAMS.

| | | |
|----------------|-----------|-----------|
| Mississippi | 7,700,000 | 4,235,000 |
| Missouri | 700,000 | 57,900 |
| North Carolina | 8,925,000 | 4,995,000 |
| Oklahoma | 690,000 | 504,000 |
| South Carolina | 6,825,000 | 4,436,000 |
| Tennessee | 2,835,000 | 1,673,000 |
| Texas | 5,880,000 | 4,116,000 |
| Virginia | 3,740,000 | 2,431,000 |
| West Virginia | 230,000 | 202,000 |

WHITE POTATOES.

| | | |
|----------------|------------|-------------|
| Alabama | Bushels. | Value. |
| Arkansas | 1,600,000 | \$1,440,000 |
| Florida | 2,520,000 | 1,915,000 |
| Georgia | 960,000 | 1,104,000 |
| Kentucky | 1,040,000 | 1,030,000 |
| Louisiana | 6,425,000 | 2,534,000 |
| Maryland | 1,428,000 | 1,357,000 |
| Mississippi | 1,170,000 | 983,000 |
| Missouri | 8,820,000 | 5,292,000 |
| North Carolina | 3,150,000 | 2,300,000 |
| Oklahoma | 2,975,000 | 2,459,000 |
| South Carolina | 880,000 | 1,012,000 |
| Tennessee | 3,168,000 | 1,996,000 |
| Texas | 2,730,000 | 2,866,000 |
| Virginia | 17,500,000 | 10,675,000 |
| West Virginia | 5,853,000 | 3,802,000 |

APPLES.

| | | |
|----------------|------------|-----------|
| Alabama | Bushels. | Value. |
| Arkansas | 3,550,000 | 2,840,000 |
| Florida | 1,875,000 | 1,725,000 |
| Georgia | 12,510,000 | 7,756,000 |
| Kentucky | 2,400,000 | 1,680,000 |
| Louisiana | 424,000 | 445,000 |
| Mississippi | 18,899,000 | 9,619,000 |
| North Carolina | 5,915,000 | 4,200,000 |
| Oklahoma | 2,340,000 | 2,153,000 |
| South Carolina | 663,000 | 696,000 |
| Tennessee | 6,075,000 | 4,861,000 |
| Texas | 562,000 | 618,000 |
| Virginia | 13,176,000 | 8,301,000 |
| West Virginia | 7,540,000 | 4,524,000 |

PEACHES.

| | | |
|----------------|-----------|-------------|
| Alabama | Bushels. | Value. |
| Arkansas | 2,640,000 | \$2,376,000 |
| Florida | 5,940,000 | 3,742,000 |
| Georgia | 177,000 | 133,000 |
| Kentucky | 5,330,000 | 5,330,000 |
| Louisiana | 1,329,000 | 1,254,000 |
| Maryland | 456,000 | 401,000 |
| Mississippi | 1,248,000 | 437,000 |
| Missouri | 1,510,000 | 1,278,000 |
| North Carolina | 3,900,000 | 2,805,000 |
| Oklahoma | 1,955,000 | 1,760,000 |
| South Carolina | 2,408,000 | 1,373,000 |
| Tennessee | 864,000 | 864,000 |
| Texas | 2,460,000 | 1,968,000 |
| Virginia | 4,235,000 | 3,684,000 |
| West Virginia | 1,164,000 | 873,000 |

"Arguments Are Simply Irresistible."

FRANK NELSON, JR., President Empire Coal Company, Birmingham, Ala.

I have just received your article on "National Preparedness," and must say that it is one of the most complete and comprehensive that one could imagine on the subject treated.

The South and the nation would owe you a debt of gratitude if your suggestions were carried into effect. Your arguments are simply irresistible, and in my judgment the administration cannot consider the matter any too soon. The necessity seems very clear to every serious thinking man, but the credit for laying it before the people in such a convincing manner is due to the MANUFACTURERS RECORD.

Very Favorable Results from an Advertisement.

WATERS REALTY CO., Okeechobee, Fla.

Our Walton office reports very favorable results from the advertisements they have been carrying in your paper, and are very appreciative of the mention you made of the ship advertisements. The office has received several inquiries from Wall Street brokers as a result.

SWEET POTATOES.

| | | |
|-------------|-----------|-------------|
| Alabama | Bushels. | Value. |
| Arkansas | 7,300,000 | \$4,104,000 |
| Florida | 3,900,000 | 2,379,000 |
| Georgia | 2,576,000 | 1,752,000 |
| Kentucky | 8,075,000 | 4,926,000 |
| Louisiana | 1,050,000 | 735,000 |
| Mississippi | 5,380,000 | 2,990,000 |
| Texas | 1,040,000 | 728,000 |

Washington, D. C., December 22.

December estimates for crops in the States of the

South, as made by the Bureau of Crop Estimates,

United States Department of Agriculture, are as fol-

lows:

CORN.

| | Bushels. | Value. |
|----------------|-------------|--------------|
| Alabama | 66,300,000 | \$45,747,000 |
| Arkansas | 62,100,000 | 39,744,000 |
| Florida | 12,000,000 | 8,760,000 |
| Georgia | 64,350,000 | 50,661,000 |
| Kentucky | 114,000,000 | 63,840,000 |
| Louisiana | 45,100,000 | 28,864,000 |
| Maryland | 24,850,000 | 15,158,000 |
| Mississippi | 69,350,000 | 45,078,000 |
| Missouri | 209,450,000 | 119,386,000 |
| North Carolina | 64,050,000 | 49,318,000 |
| Oklahoma | 123,900,000 | 56,994,000 |
| South Carolina | 35,558,000 | 30,935,000 |
| Tennessee | 94,500,000 | 54,810,000 |
| Texas | 175,075,000 | 101,544,000 |
| Virginia | 60,562,000 | 42,999,000 |
| West Virginia | 25,200,000 | 18,648,000 |

WHEAT.

| | Bushels. | Value. |
|----------------|------------|-------------|
| Alabama | 1,200,000 | \$1,500,000 |
| Arkansas | 2,750,000 | 2,778,000 |
| Florida | | |
| Georgia | 3,575,000 | 4,612,000 |
| Kentucky | 9,900,000 | 10,395,000 |
| Louisiana | 10,272,000 | 10,756,000 |
| Mississippi | 100,000 | 105,000 |
| Missouri | 34,106,000 | 33,426,000 |
| North Carolina | 10,355,000 | 12,426,000 |
| Oklahoma | 36,540,000 | 32,521,000 |
| South Carolina | 2,430,000 | 3,353,000 |
| Tennessee | 9,030,000 | 9,752,000 |
| Texas | 22,862,000 | 24,462,000 |
| Virginia | 16,974,000 | 18,332,000 |
| West Virginia | 4,500,000 | 4,860,000 |

Good Roads and Streets

SOUTHERN HIGHWAY ACTIVITIES.

Record of Week's Progress in Improvements in City and Country.

Details in regard to road and street undertakings and bond issues, briefly mentioned below, are given under the proper headings in our "Construction Department" and "New Securities," published elsewhere in this issue.

Bonds Voted.

Fort Lauderdale, Fla.—Broward county voted \$165,000 bonds for road and bridge construction.

Fort Myers, Fla.—Lee county voted \$125,000 bonds to construct 51 miles of roads.

Gilmer, Tex.—Upshur county, Justice Precinct No. 7, voted \$75,000 bonds for road construction.

Greensboro, N. C.—City voted \$50,000 bonds for paving and other street improvements.

Greenville, S. C.—Pitt county, Chicora township, voted \$50,000 bonds to construct roads.

Morristown, Tenn.—Hamblen county will issue \$150,000 bonds for road construction.

Pineville, W. Va.—Wyoming county will issue \$550,000 bonds for road improvements.

Bonds to Be Voted.

Gonzales, Tex.—Gonzales County Road District No. 2 votes February 5 on \$75,000 bonds to construct roads.

Grand Saline, Tex.—City will vote January 10 on \$16,000 bonds for street improvements.

La Grange, Tex.—Fayette county will vote on bonds for improving 70-mile road.

Lockhart, Tex.—Caldwell county votes Jan. 22 on \$50,000 bonds for road construction.

Lufkin, Tex.—Angelina county, Lufkin precinct, votes February 26 on \$200,000 bonds to construct roads.

Marshall, Mo.—Saline county votes January 19 on \$1,310,000 bonds to rock 192 miles of road.

Contracts Awarded.

Clarksville, Tex.—Red River county awarded \$300,000 contract for constructing 50 miles concrete and gravel road.

Dallas, Tex.—City awarded \$18,000 contract for rock-asphalt paving.

El Paso, Tex.—El Paso county awarded contract for constructing three-mile bitulithic highway.

Kosciusko, Miss.—Attala county awarded contract for 32 miles of roads.

Liberty, Tex.—Liberty county awarded \$25,000 contract to construct gravel highway.

Muskogee, Okla.—Muskogee county awarded contract for \$8000 improvement to 4½-mile road.

Sedalia, Mo.—City awarded contract for 9200 square yards of vertical fiber brick paving to cost \$16,000.

Tarpon Springs, Fla.—City awarded contract for 20,000 square feet of sidewalk.

Contracts to Be Awarded.

Belton, Tex.—Bell county will expend \$10,000 to gravel road.

Dadeville, Ala.—Tallapoosa county receives bids until January 12 to construct six-mile road.

Shawnee, Okla.—City will construct 20 blocks of sheet asphalt pavement.

St. Augustine, Fla.—St. John's county receives bids until January 4 for 1900 feet of vitrified brick pavement.

Tampa, Fla.—City received bids until December 21 for 1100 square yards of bituminous macadam pavement.

Waldron, Ark.—State Highway Department will build 22-mile highway.

Activity in Good Roads Construction in Eastern Kentucky.

Whitesburg, Ky., December 14—[Special.]—The new year will show even greater strides in good roads work in Eastern Kentucky's coal fields than ever before,

many of the counties now getting in readiness to begin the work of road building immediately after the first of the year.

This (Letcher) county will show no let-up in its work begun several weeks ago, the enterprising county officials being good roads enthusiasts, deeply interested, and are at this time making the necessary plans to continue on the work until Letcher county will boast of the best system of public roadways of any county in the coal fields. At this time, despite the inclemency of the weather, the work of road construction is being rapidly pushed around this city. These roads are 20 feet wide, well ditched on each side, models in every sense of the word. A number of bridges are under construction at different points in the county, contracts having just been awarded for the building of a fifth steel bridge, this one at Colly Creek. The year 1916 will see an expenditure of from \$30,000 to \$40,000 in good road work alone from the county, while the State aid will exactly double the amount, and it is likely that Letcher will call an election and vote bonds.

One of the most important pieces of road in Eastern Kentucky will lead from Whitesburg via Seco, Kona, Fleming and McRoberts, in the Boone's Fork coal fields, and so on to Jenkins, on Elkhorn, about 20 miles. Five miles of this road, between Mayking and Kona, were completed last year, while the coal companies have completed splendid roadways from Fleming via McRoberts to Jenkins. At this time construction is being rushed on the Whitesburg-Colly road, three miles of the five between Whitesburg and Mayking. The additional two miles between Colly and Mayking and three miles between Kona and Fleming will be let to contract at once and the work rushed. This will give a model thoroughfare between this city and Jenkins, the industrial center of the Consolidation Coal Co. Good roads are also forthcoming in two other directions out from Whitesburg—one toward Hindman, an inland town in Knot county, and the other toward Cumberland River, a new coal field of Letcher county soon to be developed.

Harlan county, south of here, undergoing the most rapid development of her extensive coal fields, has joined the van of road building. County Judge John A. Ward has ordered an election, upon the recommendation of 500 of the leading citizens, for the voting of \$250,000 for road building, the election called for February 12. It is said the bond issue will carry unanimously. In that event, the county will make an appeal for State aid, which will give Harlan \$500,000 available for good roads work. The Harlan Fiscal Court, also at work upon the subject, has voted to place the contracts for the work (if the bonds are voted) in the hands of a committee of five leading citizens of the county, who are to have supervision over the work. The first and most important roadway will be from the Bell county line to Harlan, 22 miles, while a second, third and fourth will be constructed from Harlan up Martin's Fork to Cawood, up Clover Fork to Evarts, and up Poor Fork to Lewis' Store, 10 miles each. Ultimately the county will devise a plan to connect with the Boone Highway, now being constructed through Bell, Knox and Whitley counties.

Leslie county is another that is making plans to construct a system of good roads in 1916. An election has been called for voting a bond issue January 13 to the amount of \$175,000. The first and the most important road to be built will be from Hyden, the county-seat, to Hazard, Perry county, the nearest railroad, express and telegraph station. Afterward the county will build a system around Hyden in the several directions.

The case of Johnson county's bond issue of \$200,000 voted several months ago, which was taken to the Kentucky Court of Appeals to test its legality owing to a technicality, was settled several days ago, and good roads work has been started around Paintsville. A model road is to be built from Paintsville to Van Lear, the important coal-mining center of the Consolidation Coal Co.

Breathitt, the former feud-ridden county, is enjoying general prosperity and is building good roads by the bond issue method. Jackson, the county-seat, is the home of the Kentucky River Good Roads Association, organized several months ago to further good road work in Eastern Kentucky, and which holds regular meetings. The association is doing a good work. At present it is pushing the project of a highway from Pound Gap along the North Fork of the Kentucky River through Letcher, Perry, Breathitt, Lee and Wolfe counties to Richmond, in Madison county, to a connection with the

Dixie Highway through the State. It is expected that favorable consideration will be reached on the North Fork highway within the next few weeks. Each county, it is said, proposes to build its part of the road.

Pike, another of the counties in the center of rapid coal development in Eastern Kentucky, is working for good roads. It is likely also that Pike will call a road bond election for early in the year.

Practically every county in Eastern Kentucky is awakening to a sense of the importance of good roads. Wise county, across the Kentucky border in Virginia, is an example of much interest, the county having spent over \$1,000,000 in good road work two years ago. From a pauper county of less than 20 years ago, Wise is today one of the richest counties in the "Old Dominion" and has the best system of roads of any county within 200 miles.

W. B. WEBB, Sergeant, Ky.

Millions for the Dixie Highway.

Reports received from 50 of the counties through which the Dixie Highway passes show that over \$1,765,200 has been expended in six months for road improvement and that these counties are preparing to spend \$6,931,000 within the next 12 months.

These returns come from less than one-third of the total number of counties through which the Dixie Highway passes, and if the remaining counties are assumed to be as active as the ones reporting they would show an expenditure of over \$5,000,000 to date and over \$20,000,000 to be expended.

The gratifying fact brought out in the reports is that a large mileage of the improvement is permanent road construction. Nearly one-tenth of the work built or under contract provides for paved roadways, showing the tendency to construct permanent highways.

Notable examples of this class of construction are the roads from Chicago to Danville, Ill.; from Jacksonville to Miami, Fla., and from Tallahassee to Bartow, Fla.

The reports from Southern States show that in 7 out of 18 counties in Kentucky there has been expended \$135,000; 5 out of 22 counties in Florida, \$601,000; 6 out of 18 counties in Tennessee, \$173,000, and 10 counties out of 24 in Georgia, \$95,000.

These large expenditures are only a small proportion of the ultimate amount to be provided, as many of the counties have merely made preparations for work on their section of the Dixie Highway and their money will not be available until later.

The bond issues which have been voted in the State of Florida alone during the past six months is now in excess of \$6,000,000, and the majority of these counties are traversed by the Dixie Highway.

It can also be conservatively stated that within the next six months these bond issues will be doubled as far as the State of Florida is concerned. Elections for the month of January alone will be called to vote on over \$3,000,000 worth of bonds, two of the counties voting on issues of \$1,000,000 each.

From the reports of the 50 counties, over 367 miles of roads are either paved now or under contract, using either concrete, brick or asphalt. From a survey of the entire highway on the basis of reports submitted, it is safe to estimate that a seventh of the entire mileage of over 600 miles of the Dixie Highway is paved. By the end of 1916 it is believed that over 300 miles will be added, and that the close of 1917 will see at least one-third of the entire mileage a paved road.

A \$3,000,000 Sugar Refinery.

Dispatches state that the Savannah Sugar Refining Co., Savannah, Ga., is about to close negotiations for a site upon which to erect its proposed refinery, and that \$3,000,000 will be invested. The corporation was chartered last March by Robert M. Hitch of Savannah, James Imbrie of William Morris Imbrie & Co., New York, and associates. Imbrie & Co. recently advised the MANUFACTURERS RECORD that plans for this enterprise were awaiting a favorable time for construction.

Additions will be built by the Muscogee Manufacturing Co., Columbus, Ga., and it is reported they will include a bleachery. Chas. R. Makepeace, Providence, R. I., is the architect-engineer in charge.

RAILROADS

[A complete record of all new railroad building in the South will be found in the Construction Department.]

BALTIMORE & OHIO STATEMENT.

Earnings Average More Than \$9,000,000 Per Month for the Last Five Months.

The Baltimore & Ohio Railroad Co. reports for November, 1915: Operating revenue \$9,233,682, increase as compared with the same month of last year \$2,354,43; total operating expenses \$6,483,842, increase \$1,178,630; net operating revenue \$2,749,840, increase \$1,175,783. The increase in transportation expenses for the month was only \$128,284 in a total of \$3,016,430. The expenses include expenditures for maintenance of way and structures totaling \$1,112,718, an increase of \$75,856, and for maintenance of equipment \$1,934,865, an increase of \$642,835 as compared with November, 1914.

The operating revenue for the first five months of the company's fiscal year, from July 1 to November 30, 1915, was \$46,875,542, an increase of \$6,411,182 as compared with the same period of last year; total operating expenses \$31,300,067, increase \$2,041,262; net operating revenue \$15,575,475, increase \$4,369,920.

Thus the average gross operating revenue per month since July 1 has been over \$9,000,000, and if the earnings continue to increase in the same ratio the end of the year will witness a gross of much over \$100,000,000, which would make it the greatest year for gross earnings in the history of the system.

DILIGENT IN RAILWAY IMPROVEMENT.

Receiver C. E. Schaff of the Missouri, Kansas & Texas System Maintaining High Efficiency.

Under the presidency of Mr. C. E. Schaff, a notably energetic policy of road betterment, strengthened equipment and general improvement was inaugurated by the Missouri, Kansas & Texas Railway. Since the road was placed in a receivership it has been reported that the same broad policy of improvement and development would be carried out by him as receiver. In response to a letter of inquiry, Mr. Schaff has sent the following confirmatory reply:

Missouri, Kansas & Texas Railway,
Charles E. Schaff, Receiver.

St. Louis, December 15.

Editor Manufacturers Record:

The Missouri, Kansas & Texas Railway's policy of maintenance and improvement to maintain and increase its capacity for the purpose of service to its patrons and to care for the commercial development along its line is being continued under the receivership. In my judgment, the interests of the property and its credit require a consistent policy to maintain and improve the physical condition of the property as the earnings will permit, and this policy will be followed with as much energy as is possible under existing traffic conditions, which necessitate that all Southwestern railroads be managed with strictest economy.

We are repairing and strengthening our freight and passenger equipment in conformity with requirements thereof, and, as you know, we have purchased 15,000 tons of steel rail to be used in replacing light and worn-out rail. We are also continuing the work of ballasting, started prior to the receivership, and this work will be continued during the year 1916. Fifty-nine miles of new ballast was applied during the fiscal year 1915, and 254 miles of track was reballasted. Heavier bridges have replaced the lighter structures over the North and South Canadian, Verdigris and Red rivers, and continuance of these policies will mean marked improvement of the road's condition.

C. E. SCHAFF.

Shop Buildings to Be Erected.

The Southern Railway, according to a report from Knoxville, Tenn., will build at its Coster shops, the work beginning immediately after Christmas, a new

steel car repair shed 73x180 feet; a work shop, 51x100 feet; a 48,000-gallon water tank; a reclaiming shed, 37x92 feet; a dry lumber shed, 32x100 feet, and a scrap dock, 52x400 feet. It is estimated that the improvements will cost approximately \$200,000. When the new buildings are finished, it is understood, from 300 to 400 additional men will be employed at the shops.

little value for lack of transportation. Iron, lead, zinc and copper also are to be found in paying quantities. The country everywhere is rich in natural resources, and this line will do much for its development. Four years of travel along the route and a careful study of resources indicates that this enterprise will develop into one of the most successful transportation lines in either the South or West."

PANAMA LINE RAILWAYS.

Projected Main Road from Pensacola to Omaha, With Several Branches.

W. G. Seaver, president and general manager of the Panama Line Railways, P. O. Box 674, Pensacola, Fla., writes concerning its recent incorporation as follows:

"The Panama Line Railways is a successor to the Panama Line, Pensacola & Missouri Valley Railway. A tentative underwriting of the bonds had been made in London prior to the war, which, of course, ended that proposition for the time being. An objection was made to the old charter because it did not specifically enumerate the powers of the corporation, though granted by the statutes of Mississippi, it being held that subsequent legislation might repeal all or a part of those privileges, whereupon our rights would cease, whereas if the charter specifically set forth the powers already conceded by law any subsequent legislative action could not affect our charter rights. Another idea was to have the branch lines named so that they could be financed either singly or as a part of the whole system as events might determine. The entire road will run from Pensacola to Omaha, Neb., 928 miles.

"No meeting has yet been held for formal organization under the new charter, it being understood that the old organization is to be retained, some new men coming in to fill vacancies caused by death.

"The officers are: Chairman of the board (to be chosen); president, W. G. Seaver of Pensacola, Fla.; vice-president, accounting and treasury, McVean Young, Pascagoula, Miss.; vice-president, operation and traffic, G. B. Chapman, Nashville, Tenn.; vice-president, engineering and construction, C. W. Lacy, Anniston, Ala.; secretary, C. G. Scott, Pascagoula, Miss.; treasurer, Dr. J. A. Tabor, Pascagoula; auditor, W. G. Preston, Philadelphia, Pa.; chief engineer, N. C. Van Natta, Chicago, Ill.; general counsel, Samuel S. Watson, 32 Nassau street, New York; general attorneys, Hudson & McKay, Vicksburg, Miss.; general solicitor (to be chosen); general land, tax and industrial commissioner, Charles E. Chidsey, Pascagoula, Miss.

"Present plans contemplate commencement of construction on the Gulf Coast & Warrior River division, 262 miles long, to open up extensive tracts of timber with direct transportation to tidewater at Pascagoula.

"In view of the constantly-increasing demands of the Interstate Commerce Commission as to equipment, we have decided to fix the capitalization at \$40,000 per mile, or so much thereof as may be necessary, to be authorized and issued on constructed mileage. Specifications call for a width of crown at subgrade of 20 feet on embankments. Unless quantities prove too excessive, the ruling grade is to be .5 of 1 per cent. We can get this grade line until we strike the Ozark Mountains in Missouri. Track of 80-pound rails on 18 inches of approved ballast. Ten-wheel engines for passenger service and Mikado type for freight service, built to Panama Line standards.

"About two-thirds of the mileage is in sections either devoid of railroad facilities or inadequately supplied. No other roads are paralleled except for short distances getting in and out of terminals and the larger cities.

"The traffic along the route is diversified. Special attention will be given to fast export service for grain and packing-house products from the Missouri Valley to the Gulf and for fast fruit, fish and oyster service North.

"Timber and timber products, agricultural products and livestock are all along the line, while a fairly heavy tonnage of manufactured products is in sight, which we expect to greatly stimulate through our industrial department at various points.

"Marble, granite, onyx and building stones of superior quality exist in the regions which will be developed by the new road, but they are at present practically of

PREPARING FOR HEAVIER TRAFFIC.

Nashville, Chattanooga & St. Louis Railway's Improvements on Nashville Division.

The policy of preparedness with relation to the conduct of a railroad is reflected in the Nashville, Chattanooga & St. Louis Railway. Recently five new Mikado-type freight locomotives have been put in service on the Nashville division to take care of the increasing traffic as a result of the opening of the Paducah & Illinois Railroad, with which the Nashville, Chattanooga & St. Louis connects at Paducah and over which road, by reason of its connection with the Burlington, much business will be handled from the Northwest over the proposed railroad bridge at Metropolis, Ill., which is now building.

In connection with this business it is planned to enlarge the railroad yards at Hollow Rock Junction, and to greatly increase the facilities at this point, not only in handling the freight traffic, but to eliminate as far as possible any delays to passenger traffic.

The work of strengthening the bridges on the Nashville division has already begun between Nashville and Harding, and between Bellevue and Newsom. Two bridges will be replaced with ballasted deck girders, and later it is proposed to reduce the grades on this division, the survey for this work having already been made.

In other words, the Nashville, Chattanooga & St. Louis Railway is exerting its best efforts to facilitate the handling of business not only in its own interest, but with the view to first pleasing its patrons.

Norfolk Southern Developing.

The Norfolk Southern Railroad has recently exhibited a noteworthy increase in its earnings. Its statement for October shows that the gross revenues for the month were \$393,293, an increase of nearly \$60,000 as compared with the same month of last year, while for the first four months of the current fiscal year, July-October, inclusive, they were \$1,421,030, as compared with \$1,334,416 last year.

In the recent annual report of the company President J. H. Young said that remarkable agricultural improvement has been shown in the drainage districts in the vicinity of Belhaven, N. C., where the corn crop of 1914, which was moved this year, amounted to over 50,000 bushels, whereas the 1913 corn crop, which was moved last year, was about 20,000 bushels, the increase being about 30,000 bushels. Indications are that this year's corn crop, which will move next year, will exceed 100,000 bushels.

It is further stated that in the "sand hill" section of North Carolina, between Star and Aberdeen, there has been a marked development in agriculture. Recent developments show that these lands, which used to be allowed to run to waste after removal of the timber, will grow the best grade of cotton, with a fair yield to the acre; also good grain crops, as well as the finest peaches and berries. Although the development of this region is still in its infancy, it promises to soon reach large proportions.

Improving Railroads of Eastern Kentucky.

Whitesburg, Ky., December 18—[Special]—In order to facilitate the work of handling the big coal tonnage moving from the Eastern Kentucky coal fields, the railroads, including the Louisville & Nashville, the Baltimore & Ohio, the Chesapeake & Ohio and kindred branches, are making many improvements. This week, on the Chesapeake & Ohio's Big Sandy branch, the laying of much heavier steel has begun, and the work will be rushed. The Baltimore & Ohio's Jenkins branch, entering the main Elkhorn field in Letcher

county, has been put in excellent condition, while at this time rush work characterizes the laying of an additional guard rail in the numerous short curves along the Louisville & Nashville's L. & E. branch between Jackson and McRoberts. With all these improvements the danger of wrecks will be reduced to the minimum, while much faster service will be inaugurated with both passenger and freight trains.

Gulf, Mobile & Northern Chartered.

The Gulf, Mobile & Northern Railroad Co. has been chartered in Mississippi to succeed the old New Orleans, Mobile & Chicago Railroad Co., this being the name agreed upon by the reorganizers of the property. The capital stock is to be \$22,500,000, of which \$11,000,000 will be preferred and \$11,500,000 common shares. The incorporators are James N. Flowers of Jackson, Miss.; Trenholm H. Marshall of New York city; Paul Chambers, Wiley P. Harris and James B. Harris, all of Jackson.

The directors are Henry F. Ricker, Eugene Harvey, John C. Potter, Trenholm H. Marshall and John S. Marshall.

Interurban Earnings Increasing.

The Washington, Baltimore & Annapolis Electric Railway Co. reports for November gross revenue of \$96,474, increase as compared with the same month of last year \$32,305; operating expenses \$43,974, increase \$6,788; net revenue \$52,499, increase \$25,515; surplus after taxes and fixed charges \$28,712, increase \$24,563. For the 11 months of the year ended November 30 the gross revenue was \$780,635, increase as compared with the same period of last year \$26,230; operating expenses \$433,622, increase \$21,377; surplus \$95,513, increase \$1901.

It is notable that the gross revenue for November exceeded by \$1600 the gross revenue for March, 1913, when President Wilson was inaugurated and the road did a remarkably large business.

Heavy Coal Tonnage.

The Norfolk & Western Railway reports its coal haul for November as totaling 2,698,706 tons, so that for the five months elapsing since July 1 it has hauled a total of 14,496,232 tons, an increase of 3,176,755 tons as compared with the same period of last year. The monthly coal haul was largest in October, when 3,027,236 tons were carried.

The Chesapeake & Ohio Railway hauled 8,636,309 tons of coal during the four months ended October 31, 1915, an increase of 694,828 tons as compared with the same period of last year. For the month of October, 1915, the haul was 2,176,900 tons, an increase of 149,112 tons over October, 1914.

Chicago, Weatherford & Gulf Railway.

H. L. Moseley, Weatherford, Tex., one of the incorporators of the Chicago, Weatherford & Gulf Railway Co., which has just been chartered, says that the capital stock is \$250,000, of which \$100,000 is paid up. The company plans to build a line for the present from Gainesville to Weatherford, Tex., and with the hope and desire to continue construction later to a point on the Gulf of Mexico. W. D. Stratton, president, and D. L. Decker, vice-president, both live at Middletown, N. Y.; H. L. Moseley, second vice-president; G. A. Holland, treasurer, and T. R. Erwin, secretary, all live at Weatherford.

Railroad Notes.

The freight traffic department of the Queen & Crescent Route has issued a handsome Christmas and New-Year greeting to its patrons. It is printed in rich colors, and bears the names of all the officers in the various bureaus of the department and in its offices in different cities.

The Alabama Engineering Corporation, Masonic Temple, Tuscaloosa, Ala., has been employed by the Bell Lumber Co. of Carrollton, Ala., to locate and construct about seven miles of lumber railroad. Bids are

being received by the lumber company for grading the first three miles. C. Morton Ayres is president and Wm. C. Hale secretary-treasurer of the engineering corporation.

Politeness and Efficiency.

To encourage employees to be courteous in all their dealings with the public, the management of the Southern Railway is asking that reports of examples of courteous acts on the part of employees be made to it. With this policy in view the following has been printed on the menu cards in some of the Southern Railway dining cars: "The management of Southern Railway Co. expects its employees to distinguish their service to the public by courtesy, and requests the traveling public to report examples of successful service, so that the employees may be encouraged by appreciation of their efforts."

New Equipment, Etc.

Pennsylvania Railroad has ordered 47 passenger cars from the Harlan & Hollingsworth Corporation, Wilmington, Del.; 28 baggage cars from the J. G. Brill Company, Philadelphia; 21 baggage cars and 5 horse express cars from the American Car & Foundry Co., St. Louis, and 6 passenger cars from the Pressed Steel Car Co., Pittsburgh.

Nashville, Chattanooga & St. Louis Railway has placed in service 5 Mikado-type freight locomotives.

Virginian Railway is expected to be in the market for locomotives.

New York, Philadelphia & Norfolk Railroad is in the market for 50 or 60 steel underframe box cars.

Hiawassee Valley Railway, Andrews, N. C., will be in the market early next spring for 25 miles of 60-pound relaying rails, besides locomotives, cars, etc. S. E. Cover is president.

Central of Georgia Railway, according to a report from Atlanta, will spend over \$1,260,000 for new rolling stock, etc.

Missouri, Kansas & Texas Railway is reported to have ordered 6000 underframes from the Commonwealth Steel Co.

Missouri, Oklahoma & Gulf Railroad has purchased 4 freight locomotives from the Baldwin Works, Philadelphia, and one of them has been placed in service.

Missouri, Kansas & Texas Railway is reported in the market for 400 tons of bridge steel.

New Orleans & Northeastern Railway has ordered 233 box cars and 45 gondola cars from the American Car & Foundry Co.

STEADY IMPROVEMENT IN BUSINESS SOUTH.

President Fairfax Harrison Gives Optimistic Review of Present Conditions.

"Business in the South is steadily improving," said Fairfax Harrison, president of Southern Railway Co., when discussing Southern conditions recently. "In a broad way it may be said that agricultural conditions in the cotton belt are more satisfactory than they have been at any time since the war between the States. While this year's cotton crop will be approximately 4,000,000 bales below that of last year, it is selling at a good price and the cost of production has been less than in any recent year. So that, taking into account the prevailing high price for cottonseed, it may safely be said that the net return to the farmer from this year's crop will be substantially above the average. It is also true that, while this year's crop is relatively small, so much of last year's crop was held over in the South—much of it by the farmers who produced it—that the available supply and consequently the movement to market will be normal. While growing less cotton, the South has greatly increased its production of other farm products, correspondingly reducing its purchases from other localities of such supplies as meat and dairy products, grains and forage. This means that the farmer is able to make larger purchases of general merchandise and is reflected in the improvement of wholesale and retail merchandising throughout the South.

"While the South has benefited relatively little from the placing of so-called 'war orders,' there is a sub-

stantial and healthy increase in all lines of manufacturing. Nearly all of the furnaces in the Birmingham and other iron-producing districts are in blast, maximum production of pig-iron being stimulated by the advance in price to \$14.50 per ton.

"Southern textile mills are working at about their full capacity, which is being steadily increased by the construction of new mills and additions to existing establishments. In fact, the Southern textile industry, as a whole, has not suffered as much as some other forms of industry at any time since the beginning of the European war, for the United States Census figures show that during the 12 months ended July 31, 1915, the consumption of cotton by mills in the cotton-producing States showed an increase of 69,335 bales over the preceding 12 months, as compared with a decrease of 96,615 bales in all other States.

"Southern lumber is advancing in price, with a steadily increasing demand.

"Financial institutions of the South are sound and able to extend necessary accommodation to those entitled to it.

"Business everywhere is on the upgrade, and, as far as can now be foreseen, conditions will continue to improve during 1916.

"The railroads in the South were, as is well known, hard hit by the reduction of the purchasing power of the people of the South last year, and, like some other Southern industries, have losses to make up. Under current conditions, their income is now, speaking generally, convalescent, due to more normal revenues and the continued practice of economies inaugurated last winter.

"From my own individual point of view, the prospect is cheerful, but, pending the assurance of renewed prosperity in the South, it is a time for caution and sane management, and not for exuberance. In saying this I may add that I have never faltered in my sustained faith in the ability of the South to justify the confidence of those who invest their money in it."

Extended Contract for Baltimore Shipbuilding Company.

The Baltimore Drydock & Shipbuilding Co., which was successful some months ago in securing contract from Christoffer Hannevig of Christiania, Norway, for the construction of two oil tank steamers 293 feet long by 47 feet beam by 28 feet deep, and later for duplicates of these ships, has recently secured contract from the owner for fitting these ships ready for sea, except for propelling engines, which will be installed in Norway. The construction of the four ships was at an approximate cost of \$1,000,000, and the fittings for \$500,000 additional.

This piece of work is of especial interest owing to the fact that the ships are, as previously mentioned in the MANUFACTURERS RECORD, the first Norwegian ships to be built in America.

Big Orders for Cigarette Machines.

The Comas Cigarette Machine Co., Salem, Va., writes to the MANUFACTURERS RECORD:

"The report that we are considering the acceptance of contracts from European governments for the manufacture of war munitions is not correct. We are confining our activities entirely to the manufacture of cigarette machinery, which we are introducing in all parts of the world. Our present orders are sufficient to keep us busy for the next six or eight months. In order to meet the needs of our expanding business, our directors determined last week to proceed at once with the erection of a new machine shop 120x140 feet, and to install sufficient machinery to double our present output. We expect to occupy our new building the latter part of April."

Lumber Wanted by Northern Company.

Northern Iron & Steel Co., 1011 Drexel Building, Philadelphia, Pa., writes to MANUFACTURERS RECORD:

"We are in the market for the immediate purchase of oak, hemlock, white pine and yellow pine (not turpentine) f. o. b. cars Norfolk, Newport News or Mobile. Manufacturers having this class of lumber can get specifications and requirements by addressing us at our Philadelphia office."

TEXTILES

[A complete record of new textile enterprises in the South will be found in the Construction Department.]

Correspondence relating to textile matters, especially to the cotton-mill interests of the South, and items of news about new mills or enlargements, special contracts for goods, market conditions, etc., are invited by the MANUFACTURERS RECORD. We shall be glad to have such matters at all times, and also to have any general discussion relating to cotton matters.

Republic Addition to Cost \$600,000.

Specifications have been prepared for the No. 2 mill which the Republic Cotton Mills will build at Great Falls, S. C. The company's architect-engineer, J. E. Sirrine, Greenville, S. C., gives the MANUFACTURERS RECORD particulars as follows: 32,600 spindles, 740 looms, accompanying preparatory machinery, etc.; electrically driven, using individual motors, with exception of cardroom machinery, which will be group driven; reinforced concrete building 400x133 ft., 3 stories high, costing \$134,000; warehouse 175x100 ft., 2 stories high, having storage capacity of 3000 bales of cotton, costing \$17,000; boiler-room, costing \$3000; steam plant for heating and slashing; 250,000-gallon reservoir for fire protection; contracts for 80 tenement-houses, costing \$60,000, let to John L. Hamby, Greenville, S. C.; fire protection system to cost \$12,000; humidity equipment, \$6000; heating plant, \$6000; textile machinery, \$322,000; daily capacity 30,000 yards print cloth; probably award plant buildings contract about January 1.

The \$500,000 Clinchfield Mill.

Additional particulars of the Clinchfield Manufacturing Co.'s new cotton mill at Marion, N. C., illustrated and described in the MANUFACTURERS RECORD of December 16, have been given by J. E. Sirrine of Greenville, S. C., the company's engineer and architect. The 25,000 spindles are accompanied by 600 looms, the daily capacity being 25,000 yards of cotton cloth and 125 operatives being employed. Approximately \$500,000 was the cost of the completed plant, including \$40,000 for the steam power equipment.

Textile Notes.

The Cardinal Mills, West Point, Miss., will double output of cotton yarn.

An enlargement has been decided upon by the Corsicana (Tex.) Cotton Mill Co.

J. J. Littlejohn, Jonesville, S. C., proposes to establish a knitting mill at Ocala, Fla.

The American Textile Co., Sweetwater, Tenn., will, it is reported, build additions to its mill.

The W. S. Gray Cotton Mills, Woodruff, S. C., will build two-story 100x65-foot addition.

The Dallas (Tex.) Cotton Mills will, it is reported, expend \$50,000 for enlargements and improvements.

An increase of capital, from \$50,000 to \$200,000, has been decided upon by the Crescent Hosiery Co. of Scotland Neck, N. C.

An addition costing from \$100,000 to \$150,000 will be built by the Swift Manufacturing Co., Columbus, Ga. J. E. Sirrine, Greenville, S. C., is the architect and engineer in charge.

The Woodruff (S. C.) Cotton Mill has awarded contract to the Fiske-Carter Construction Co., Greenville, S. C., to build its addition. This will be a four-story building of mill construction.

The P. H. Hanes Knitting Co., Winston-Salem, N. C., will build a four or five-story standard mill construction 200x100-foot addition and install machinery, practically doubling present capacity.

One one-story and two two-story additions will be built by the Mt. Vernon-Woodberry Mills, Baltimore. They will be of brick construction, with concrete floors and roofs, firedoors, etc., semi-fireproof construction, with \$4000 plumbing equipment, all costing \$12,000. W. T. Childs is the contractor and Jos. Evans Sperry is the architect, both of Baltimore.

FOREIGN NEEDS

Machinery and equipment wanted abroad are mentioned in many letters received by the MANUFACTURERS RECORD, which is so widely read in foreign countries that we are in constant receipt of many letters from all parts of the world. For the benefit of our subscribers seeking foreign trade we publish the following extracts from recent letters:

A Letter from Gambia.

S. Horton Jones, Russell street and McCarthy Square, Bathurst, Gambia:

"With regard to the outlook for selling American products in this country, I cannot at this moment think of any articles, apart from lumber and tobacco, which would be of interest. Most of the articles sold here are of continental make, having their origin in Austria, Germany, France, Belgium and England. The difficulty of getting direct steamship service between here and the United States of America makes it not easy to handle regular products from America. On the other hand, the staple product of this place is the ground nuts, a large quantity of which go to France and the remaining quantity to Germany and Austria. Owing to the present war, what usually was sent to Germany is now being diverted to England, where mills have been erected for crushing purposes. If any of your correspondents are interested I shall be pleased to answer inquiries and give all information at my disposal."

All Kinds of Metals Wanted.

Gaetano Meroni & Honegger, Milano, Italy:

"The articles in which we are most interested are metals of every quality and shape, and especially we are very desirous to enter into business relations with first-rate American producers of: Copper in cakes, sheets, rods, seamless tubes; brass in cakes, sheets, rods, and seamless tubes; steel in ingots and sheet bars; cast iron; pig-iron; zinc in every form; aluminum in every form. We shall feel very grateful to you if you will help us in securing such business relations. We are representatives of and in connection with first-class Italian buyers disposed to give us the preference in regard to placing their orders; of course, on the condition that we are able to quote them prices and conditions at the same level of the best producers. As to terms of payment, our clients are quite disposed, at the present time, to accept those generally required by the American manufacturers; that is, f. o. b. New York, or other American ports, cash 1 per cent. in New York against shipping documents, but it would be advisable that American manufacturers persuade themselves to sell to the best Italian consumers for goods rendered c. i. f. Genoa, granting them also the faculty to pay against documents in Genoa.

"Our banking references can be obtained from the following Italian banks: 'Credit Italiano' of Milan; Banca Commerciale Italiana of Milan; Banca Feltrinelli of Milan."

Hardware, Leather, Shoes, Etc.

Nicolas G. Zacher, Alexandria, Egypt:

"I would like to get into communication with factories making leather for shoes, shoes themselves, stockings of different kinds, and iron hardware in general for building purposes, nails, vises, springs, etc. In order to facilitate dealings it would be wise for American firms to fix their prices free of packing, and, if possible, costs, insurance, freight, etc., to Alexandria. Our buyers are in the habit of paying for what they purchase at Alexandria on receipt of documents, and they would hardly be willing to pay for the goods at the port of departure."

Various American Manufactures Wanted.

J. Carreira Junior, Recife, Pernambuco, Brazil:

"I would accept the agency for any goods that the manufacturers and merchants of the United States of America have to offer. I have been working here for 18 years. I take business from the better class of

people and people that I know are responsible for their debts. On small orders the terms are payment within 30 days, ordinarily 60 days, sometimes 90 days, and on larger orders in proportion. These conditions are in accord with those which we get from Switzerland, Italy, Spain, Portugal and other countries. Of course, we would like to have samples and prices at which goods can be delivered. What we want are supplies as would be found in any department store: Ladies' and gentlemen's furnishing goods; underwear; medicines; codliver oil; linseed oil in different packages; paints; glass; saltpeter; sheet glass; window glass; rubber goods; woven cotton, wool and silk; kitchen and dining-room furniture of glass; chinaware; porcelain; mirrors; sanitary furniture, including bathtubs; bicycles, automobiles and equipment for same; iron piping, and so on. This will give you an idea of what we can handle, and can make it more extensive if necessary, but as far as possible we would like to have samples at least in miniature at least of the goods we are to deal in and put before our customers. Samples ought to be carefully marked and correspond precisely with the goods that we are to get. Of course, in a business of this kind suitable provision and just arrangements ought to be made for the payment of commission to us."

American Products for Argentina.

Furio Viola & Co., commission merchants, Buenos Aires, Argentina:

"Our country is well disposed toward North America, and your people know well how to profit by that fact, but they must, or should do, as the Germans and other European merchants, in regard to credit and other circumstances connected with the trade. We are commission merchants, and try to conciliate the interest of the houses we represent. In order to do business with us it is advisable to quote prices Buenos Aires, charges—insurance and freight—prepaid, and to give a certain amount of credit not only for small but also for large orders. The agents ought to be supplied with a complete line of samples of the goods offered in order to avoid any discussion or disagreement later on."

(In September this firm wanted to represent manufacturers of fans for advertising purposes, fire protection systems, etc.)

Many Products Wanted for Spain.

T. Campi & Cusso, Pino 13, Barcelona, Spain:

"Owing to the European war, we are short of different articles on the Spanish market, and there is now a nice opportunity for introducing new business relations with the market of North America, so that I should like to offer my services as agent for the sale of goods. I am giving you a list, and I should feel obliged if you would state me the names of some important firms manufacturing the articles I am referring to. I have gone through your review, and beg to say that the information given is of interest and appropriate for a commercial region like yours."

"List of articles: Paste for paper industry; chemical and pharmaceutical products; colors, all kinds, especially of aniline; dyeing extracts; inks for printing; oils of aniline; potato flower (starch) for the industry; prepared colors; texture of cotton; asbestos; oilcloth, wax-colored and linoleums; toys; fancy buttons; tools; varnish."

Cutlery, Piping, Machinery, Lumber, Etc.

Simao Salem, manufacturers' agent and commission merchant, S. Paulo, Brazil:

"I have looked over the MANUFACTURERS RECORD and found it just what I am looking for. I will write to advertisers and mention that I have seen their advertisement in the MANUFACTURERS RECORD. I am established here from a long time as a manufacturers' agent and commission merchant, and handle all kinds of European and American products. I like to make more connections with American manufacturers and producers for handling their goods in this country. The articles that I am more interested in are cotton stockings, scissors, razors, knives, hair pins, all kinds of cutlery, cotton yarn of all kinds, cheap jewelry, iron pipes, galvanized pipes, all kinds of machines and toys, lumber, wheat."

is organizing \$100,000 company to build 150-hp. flour mill.
G. C., Camden.—Camden Milling Co., capital \$2000, Incptd.; R. L. Moseley, Prest. Treas.; W. L. Rush, V.-P. and Secy.

FOUNDRY AND MACHINE PLANTS

Tenn., Knoxville—Coal-cutting Machine.—Oldroyd Mfg. Co., capital \$50,000, Incptd. by G. S. Oldroyd, J. R. Foster, E. H. Ford and others.

W. Va., Bluefield—Armature.—West Virginia Armature Co., capital \$50,000, Incptd. by A. L. Smith and F. E. Smith of Bluefield, W. A. Bishop of Pocahontas, Va., and others.

Va., Salem—Cigarette Machinery.—Comas Cigarette Machine Co. writes to the Manufacturers Record: Will build 140x120-ft. machine shop and install sufficient machinery to double present output.

GAS AND OIL ENTERPRISES

Ark., Van Buren.—Crawford Gas & Oil Co., capital stock \$250,000 (lately noted Incptd. W. J. Martin, Treas.), and as leasing 25,000 acres oil lands in Crawford county, will install 10 mi. 6, 8 and 10-in. piping; drills its own wells; open bids on pipe about Jan. 10; C. H. Reece, Engr. (See Machinery Wanted—Pipe.)

Md., Baltimore—Natural-gas Supplies.—Geo. W. Sturmer, special representative general manager's office of Baltimore & Ohio R. R., Baltimore and Charles Sts., and associates of Gas Producers' Assn. of West Virginia propose transporting West Virginia natural gas, in tank cars, to Baltimore; contemplate compressing 2,750,000 cu. ft. natural gas into car 36 ft. long by 9 ft. diam. and operate 50-car trains.

Okl., Ada.—Diamond Eagle Oil Co., capital \$15,000, Incptd. by R. W. Allen, C. H. Rivers, J. R. Craig and others.

Okl., Blackwell—Oil Refinery.—Planet Oil Co., Box 813 (lately noted Incptd., capital \$50,000), will establish oil refinery, 1000 bbls. capacity; about 12 mi. pipe line; 3 or 4-in. piping; open well-drilling bids Jan. 5; J. J. Brown, Jr., Engr., Box 813. (See Machinery Wanted—Well Drilling.)

Okl., Boynton—Oil Refinery.—Boynton Refining Co. (J. B. Ryan and others) let contract for oil refinery of 1000 to 1500 bbls. capacity; Boynton Oil, Gas & Fuel Co., John H. Mosler, Prest., Muskogee, Okla., has the oil-piping contract, and will construct about 25 mi. new line.

Okl., Lawton—Gas Plant.—City voted to grant franchise to Albert T. Woods and associates. (City Commrs. lately noted to have granted franchise subject to election.)

Okl., McAlester—Gas Pipeline.—F. A. Willard is building gas pipeline from gas field near Blocker to McAlester, to supply natural gas to city.

Okl., Miami.—R. G. Cunningham Oil Co., capital \$5000, Incptd. by R. G. Cunningham, J. A. Cunningham and R. M. Marks.

Okl., Oklahoma City—Gas Mains.—Oklahoma Gas & Electric Co. contemplates extending service mains to territory surrounding city.

Okl., Sapulpa.—Hazard Oil & Gas Co., capital \$10,000, Incptd. by W. H. Angus, E. F. Denney and W. H. Huyske.

Okl., Sapulpa.—Sapulpa Producing Co., capital \$100,000, organized by T. G. Tinsley, Prest. Sapulpa Refining Co., and others; will operate in conjunction with Sapulpa Refining Co.; develop 1600 acres oil lands.

Okl., Tulsa—Gasoline.—Absolutely Gasoline Co., capital \$10,000, Incptd. by F. I. Louis, R. B. Pringle and H. B. Gutelius.

Okl., Tulsa—Choctaw Natural Gas Co., J. R. Stebbins, Secy. (lately noted Incptd., capital \$150,000), will build 8 mi. 8-in. and 10 mi. 6-in. pipeline; let contract for first section; needs additional pipe, etc. (See Machinery Wanted—Pipe and Tubing.)

Okl., Tulsa—Oil Fields Gas & Electric Co., capital \$200,000, Incptd. by W. A. Moore and J. T. Lantry of Tulsa, C. F. Hopkins, Sapulpa, Okla., J. A. Frates, Springfield, Mo., and others.

Okl., Tulsa—Reford Oil & Gas Co., capital \$25,000, Incptd. by W. H. Reese and John B. Means of Tulsa and E. T. Crawford of Charleston, W. Va.

Okl., Tulsa—Trades Union Oil Co., capital \$20,000, Incptd. by C. A. Wiley of Tulsa, B. Rabkinowitz and Max G. Cohen of Kansas City, Mo.

Tex., Aransas Pass.—New Harbor Oil Co., capital \$100,000, organized by John Sigmund of Chicago, Ill., and others; will develop oil wells.

Tex., Corpus Christi.—Piedras Pintas Oil & Development Co., capital \$1000, Incptd. by Chas. New, Geo. H. Clark and David M. Picketon, Jr.

Tex., Houston.—Universal Oil Co., capital \$10,000, Incptd. by E. S. Cuny, E. P. Edwards and J. W. Waddle.

Tex., Houston.—Humble Petroleum Co., capital \$12,000, Incptd. by J. A. Jones, Jr., B. B. Milburn and T. H. Postal.

Tex., Houston.—Permit Oil & Gas Co., capital \$40,000, Incptd. by W. J. Fox, Jules Hirsch and Arthur Dumm.

Tex., Crockett.—Houston County Oil & Gas Co., capital \$7500, Incptd. by J. E. Winfree, W. L. Dawson and John F. Baker.

Tex., Ranger.—Staff Oil & Development Co., capital \$9000, Incptd. by C. E. Terrell, C. O. Terrell and T. C. Terrell.

Tex., San Antonio.—Marrs Oil Co., Suite 514 Gunter Bldg., Incptd. with \$1,000,000 capital stock; will develop 2700 acres oil land; J. T. Duncan, Prest.; G. M. Ryan, Treas.

Tex., Victoria.—Victoria Oil Co., capital \$30,000, Incptd. by L. B. Hancock, F. P. Crow and H. H. Stephenson.

W. Va., Charleston.—Kanawha Manufacturers' Gas Co., capital \$300,000, Incptd. by Angus McDonald and V. L. Black of Charleston, O. P. Fitzgerald of Huntington and others.

ICE AND COLD-STORAGE PLANTS

Ala., Montgomery.—Richard Tillis of Montgomery Light & Traction Co., proposes to establish plant to manufacture ice from raw water.

PROPOSAL ADVERTISEMENTS IN THIS ISSUE

PUBLISHED ON PAGES 76 and 77

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Co. and proposes increase of output raw steel, probably increasing to 100,000 tons annually. (Lately mentioned having purchased Atlanta Steel Co., continuing principal officers that corporation, planning increased output, etc.)

Ky., Ashland—Steel Plant.—F. B. Moore, Secy. Ashland Coal & Iron Ry. Co., writes to Manufacturers Record: "No plans adopted or submitted; report is premature; if built, it will be by Ashland Iron & Mining Co." (Ashland Coal & Iron Ry. Co. lately reported to build \$500,000 steel plant.)

Ky., Middlesboro—Iron Furnace.—Virginia Iron, Coal & Coke Co., Roanoke, Va., will blow in iron furnace; complete repairs so as to be manufacturing pig-iron by Feb. 1. (Lately noted)

Okla., Arkoma—Bars and Rounds.—Fort Smith Iron & Steel Mills, Fort Smith, Ark., organized; Jas. W. Arnold, Prest.; R. W. Cotton, V.-P. and Secy.; continue manufacture of bars and rounds.

Va., Pulaski—Iron Furnaces, etc.—Kirby Thomas, Mining Engr., 120 Broadway, New York, writes to Manufacturers Record: "Not connected with any new developments in iron and steel operations in this section; have been making investigations of iron deposits for interests already operating here." (Lately reported interested in plan whereby New York capitalists will build iron plant, etc.)

LAND DEVELOPMENTS

Ala., Acipco.—American Cast-Iron Pipe Co., Birmingham, Ala., will develop as an industrial village a 50-acre tract adjacent to plant at Acipco (Birmingham suburb); engaged

Dr. John Nolen, city planning expert, Cambridge, Mass., to design plans and lay out the property; proposes building lots, small civic center, schools, churches, stores, dwellings.

Va., Roanoke.—Lake-Mont Park Corp., capital \$100,000, chartered; H. H. Markley, Prest.; J. T. Bandy, Secy.-Treas.

Va., Roanoke Rapids.—Roanoke Avenue Development Co., capital \$100,000, Incptd. by C. A. Wyche, W. L. Long and J. T. Chase.

W. Va., Madison.—Boone County Land Co., Huntington, W. Va., capital \$10,000, Incptd.; Chas. H. Bronson, Prest.; R. P. Eubank, V.-P.; Harry L. Broh, Secy.-Treas.; develop 17 acres in about 200 lots 25 being business lots around new courthouse; balance for residence lots; development plans include erection of 2-story brick 25-room hotel; R. P. Eubank, Richmond, Engr.

LUMBER MANUFACTURING

Ala., Bromley.—Martin Lindsey, Mobile, Ala., purchased tract long-leaf yellow pine timber land at Bromley, Baldwin county; will manufacture lumber.

Ala., Tuscaloosa.—Deal-Curtis Lumber Co. (S. E. and W. W. Deal of Gordo, Ala., and N. S. Curtis of Tuscaloosa, Ala.) will develop timber land in Pickens county; understand to install mill at Coldfire.

Ark., Prescott.—Ozan-Graysonia Lumber Co. combines timber holdings and mills of Graysonia-Nashville Lumber Co., Graysonia, Ark., and Ozan Lumber Co., Prescott; Prest. and Gen. Mgr., Wm. M. Bemis of St. Louis, Prest. of Ozan Lumber Co.; V.-P., W. E. Grayson of Graysonia, Prest. of Graysonia-Nashville Lumber Co.; continue manufacturing at Prescott and Graysonia. (Lately noted Incptd. with \$1,250,000 capital.)

Ark., Princeton.—Princeton Lumber Co. will rebuild planing mill reported burned at loss of \$3000.

Fla., Apalachicola.—Cypress Lumber Co. will increase boiler capacity; install boilers, feed pumps, heaters, etc. (See Machinery Wanted—Boilers, etc.)

Fla., Port St. Joe.—Pine Burr Lumber Co., lately noted (under Fla., Jacksonville) Incptd., capital stock \$200,000, Bascom Parker, Prest., let contract to Franklin F. Davis, Jacksonville, to erect \$200,000 ordinary construction buildings; purchased equipment from Filer & Stowell Co., Milwaukee, Wis. (Also noted in July.)

Ky., Bowling Green.—Frank T. Kister, Jr., will rebuild planing mill lately noted burned at loss of \$40,000 to \$50,000.

Ky., Murray.—Brown-Belcher Lumber Co. increased capital from \$10,000 to \$25,000.

Md., Elkton.—Carolina Lumber Co., capital \$100,000, Incptd. by Emenet M. Enger and others.

Miss., Columbus.—Choctaw Lumber Co. Incptd. with \$20,000 capital.

Mo., O'Fallon.—Gentemann Lumber & Supply Co., capital \$16,000, Incptd. by F. H. H. B. and Fred A. Gentemann.

S. C., Union.—Union Lumber Co., capital \$3000, Incptd. by J. G. Bouknight, H. G. Bishop and J. M. Moss.

Tex., Benford.—Mardez Lumber Co., 120 Carter Bldg., Houston, Tex., will continue manufacture of yellow pine; has mill; organized with L. Davidson, Prest.; H. J. Cullen, V.-P.; G. M. Seaman, Secy.-Treas. (Lately noted Incptd., capital \$50,000.)

Tex., Dallas.—Burgoyne Bros., Hugo, Okla., will build lumber mill; cost \$80,000.

Tex., Houston.—Southland Lumber Co. increased capital from \$20,000 to \$50,000.

W. Va., White Sulphur Springs.—J. S. Davis, Huntington, W. Va., purchased 1800 acres additional timber land in Greenbrier county.

METAL-WORKING PLANTS

Tex., Dallas—Steel and Wire.—Texas Key- stone Steel & Wire Co., capital \$20,000, Incptd. by H. G. Moore, P. W. Sommer, L. E. Burgess and others.

Va., Richmond.—Sheet-metal Products, etc.—Wheeling Corrugating Co., Wheeling, W. Va., is removing established warehouse to new location; will slightly remodel building for use as warehouse for product manufactured at Wheeling, and for distribution in territory tributary to Richmond; does not contemplate manufacturing at Richmond. (Lately noted as to establish branch plant.)

MINING

Ark., Dodd City—Zinc.—Bear Hill Mining Co. (lately noted Incptd., capital \$35,000) organized; J. M. Bergman, Prest.; J. E. Andres, V.-P.; W. M. Gallagher, Secy.-Treas.; T. H. Braley, Mgr.; develop 40 acres; daily capacity 200 tons; install zinc machinery, cost \$30,000. (See Machinery Wanted—Electric-light Equipment; Telephone Equipment; Coal.)

Fla., Live Oak—Graphite.—J. H. Dowling interested in graphite mining; contemplates building plant; equipment to include rock crushers and pulverizers. (See Machinery Wanted—Mining Equipment.)

Ga., Savannah—Stone and Granite.—Southern Crushed Stone & Granite Co., capital \$50,000, Incptd. by J. M. Schroder and M. L. Brennan.

Md., Mt. Savage—Fire Clay.—Mt. Savage Fire Brick Co. will install electrical equipment; contracted for electricity.

Mo., Ash Grove—Lead and Zinc.—Ash Grove Mining Co. organized; J. E. Lightfoot, Prest.; Omas Smith, V.-P.; will develop 120 acres. (Lately noted Incptd., capital \$2000.)

Mo., Hillsboro—Zinc.—G. J. Johnson is reported to develop zinc mines.

Mo., Joplin—Lead and Zinc.—Henderson Lead & Zinc Co., capital \$40,000, Incptd. by W. S. Pace, H. C. Wheeler, F. M. Webber and others.

Mo., Joplin—Zinc.—Coralbut Mining Co., Box 476, organized to develop 30 acres; daily capacity, 400 tons zinc ore; machinery, cost \$24,000, includes crushing and concentrating machinery, gas engines and compressors, hoists, drills, etc., and is mainly purchased; P. Henry Corbett, Memphis, Tenn., Prest.; Roy H. Allen, V.-P., Treas. and Mgr.; P. B. Butler, Secy. (Lately noted Incptd., capital \$40,000.)

N. C., Mt. Holly—Oliver Quartz Co. will develop 70 acres; I. Heckenbliker, Prest.; P. S. Gilchrist, V.-P.; T. C. Oliver, Secy., Treas. and Mgr.; all of Charlotte; will develop 70 acres. (Lately noted Incptd., capital \$10,000.)

Okl., Henryetta—Smelter.—G. F. Streich and A. F. Bondy of Cherokee, Kans., will build 5-block smelter.

Okl., Henryetta—Smelter.—Henryetta Smelter Co. will add 3 blocks to 2-block smelter now nearing completion; O. A. Oesterle, Mgr.

Okl., Henryetta—Smelter.—Henryetta Smelter Co., capital \$100,000, Incptd. by Oscar A. Oesterle and Geo. W. Moore of Henryetta and Oscar C. Zaumusel of Webb City, Mo.

Okl., Oklahoma City—Comstock Mining & Development Co. capital \$35,000, Incptd. by E. H. Ream, H. Brosseau, G. C. Jones and others.

Okl., Poteau—Zinc Smelter.—Chas. T. Orr of Joplin, Mo., will build zinc smelter to cost \$250,000.

Tex., Burnet—Bailey Mining Co. capital \$40,000, Incptd. by Luke Hobbs, W. H. Rodgers and J. P. H. Bailey.

MISCELLANEOUS CONSTRUCTION

Ga., Savannah—Coaling Station.—P. J. Rice, Augusta, Ga., representing capitalists, is reported as contemplating erection of coaling station.

Tex., Port Arthur—Pleasure Pier.—City votes Dec. 28 on \$25,000 bonds to build pleasure pier. Address The Mayor.

Tex., Fort Bliss—Heating Plant.—Government let contract W. S. King of Lonoke, Ark., at \$9000 to construct heating system for 13 officers' quarters.

Tex., Freeport—Loading Dock.—Freeport Sulphur Co. has plans for loading dock; 300 ft. long; creosoted piling and heavy timbers; banks of river alongside to be protected by treated sheet piles.

Va., Sewalls Point—Incline and Car Dumper.—Virginia Ry. Co., H. Fernstrom, Ch. Engr., Norfolk, Va., proposes to construct and install new 120-ton pier car, new incline and car dumper at coal pier.

MISCELLANEOUS ENTERPRISES

Ala., Birmingham—Building Supplies.—J. F. Baldwin Building Supplies Co., capital \$10,000, Incptd.; J. F. Baldwin, Prest. and Gen. Mgr.; Crundell B. Baldwin, Secy., Treas.

Fla., Jacksonville—Construction Material. Construction Material Co., capital \$50,000, Incptd.; Okle Painter-Williams, Prest.; W. L. Lyman, Secy.; S. F. Williams, Treas.

Fla., Orange Springs—Mineral Springs Resort.—Florida Farms and Homes, Jas. R. Murphy, Prest., Palatka, Fla., will make improvements; let contract to Palatka Concrete Construction Co., Palatka, to build wall around spring; will install electric light, ice and water plants; has started demonstration farm; will remove offices from Palatka to Orange Springs; plans are being drawn for office building.

Fla., Tarpon Springs—Sponge Packing.—Jos. Niehaus Co. of Cincinnati, O., will build \$200 sponge-packing plant; Jas. Zurdos, local representative.

Ga., Cordele—Cordele Daily Tribune will rebuild printing plant reported burned at loss of \$15,000.

Ky., Middlesboro—Express.—Cumberland Gap Express Co., capital \$1000, Incptd. by V. G. Gibson, A. N. Nelson and Floyd Nelson.

Md., Anne Arundel County—Amusement Resort.—Rock Creek Amusement Co. (Geo. W. Efford & Sons), foot of Broadway, Baltimore, Md., will develop about 8 acres at mouth of Rock Creek as picnic and excursion shore.

Mo., Cumberland—Printing.—Cumberland Oil Company will rebuild structure noted damaged by fire at loss of \$15,000 to \$20,000.

Mo., Reeds—Grain Elevator.—People's Elevator Co., capital \$5000, Incptd. by W. A. Stroup and W. W. Whitaker of Reeds and A. A. Grieb of Carthage, Mo.

Mo., St. Louis—Publishing.—Pulitzer Publishing Co., 212 N. Broadway, having plans prepared by Barnett, Haynes & Barnett, Century Bldg., for 8-story publishing house; cost \$200,000.

Mo., St. Louis—Printing.—Blum Printing Co., capital \$3500, Incptd. by M. L. Blum, F. J. Herzog and Jas. W. Wolfert.

Mo., St. Louis—Dalry—Steinlage Sanitary Milk Co. 6631 Florissant Ave., organized with John G. Steinlage, Prest.; E. Steinlage, V.-P.; Arnold F. Steinlage, Secy.; has building; let contract for machinery (brewery type) to Barry Wehmiller Machinery Co., St. Louis. (Lately noted Incptd. with \$100,000 capital.)

Okla., Ardmore—Construction.—Ardmore Construction Co., capital \$50,000, Incptd. by O. C. Asher and Wirt Franklin.

S. C., Alken—Publishing.—Alken Publishing Co., capital \$7500, Incptd.; Walter E. Duncan, Prest. Treas.; G. A. Briggs, V.-P.; C. J. Atkinson, Secy.

Tenn., Knoxville—Dry Cleaning.—Knoxville Dry Cleaning Co., capital \$10,000, Incptd. by Dennis Gallagher, T. J. Meshan, Thos. McGuire and others.

Tex., Fort Worth—Printing and Publishing.—Reimers Co., capital \$100,000, Incptd. with C. D. Reimers, Prest.; John W. Wray, V.-P.; Roy Sanders, Secy.; T. D. Collier, Asst. Secy.; purchased Exline-Reimers Co.

Tex., Port Arthur—Abattoir and Incinerator.—City votes Dec. 28 on \$20,000 bonds for abattoir and \$6000 for incinerator. Address The Mayor.

Tex., San Antonio—Grain Elevator.—Webster Co. will build grain elevator; concrete, steel and corrugated iron; in connection build shuck-grinding mill and warehouse.

Tex., Temple—Laundry.—W. H. Coats & Son (owners of National Steam Laundry) adopted plans for steam laundry; brick; invites bids.

Va., City Point—Dairy.—City Point Dairy, capital \$5000, Incptd. Thos. Epes Fenner, Jr., Prest., City Point; M. Dillard Epes, Secy., Treas., Blackstone, Va.

Va., Hopewell—Publishing.—Hopewell Daily Press, capital \$50,000, Incptd.; J. L. Vaughan, Prest., Shawaville, Va.; G. W. Bagwell, V.-P., Hopewell; J. B. Withers, Secy., Treas., Petersburg, Va.

Va., Hopewell—Laundry.—Hopewell Steam Laundry, R. L. Ott, Prest., 1211 First National Bank Bldg., will rebuild burned plant; erect 3-story brick structure. (Lately noted as erecting 3-story 80x50-ft. ordinary brick-construction building; Stewart Realty Co., Contr., Hopewell; ordered machinery costing \$9000.)

Va., Norfolk—Grain Elevator.—S. D. Scott & Co. are having plans made by Neff & Thompson, Norfolk, for grain elevator lately noted to be rebuilt.

Va., Petersburg—Building Construction.—Safety Construction Co., capital \$50,000, Incptd.; Israel Silberstein, Prest., Baltimore, Md.; Sam W. Zimmer, V.-P., Petersburg; Morris M. Silberstein, Secy., Hope well.

W. Va., Huntington—Transfer and Storage.—Huntington Transfer & Storage Co., 1021 4th Ave., reorganized and increased capital from \$10,000 to \$35,000; acquired Independent Transfer & Storage Co.; will erect barn on 30x100-ft. site; W. M. Bess will probably be Prest. and Thos. Jobe Mgr.

MISCELLANEOUS FACTORIES

Ala., Bay Minette—Creamery.—Home Gardens Land Co., J. B. Lawrence, Mgr., Dyar, Ala., proposes establishment of creamery.

Ala., Birmingham—Bakery.—Fies Realty Co. let contract J. Blomely, Birmingham, to build bakery for Birmingham Bread Co.; structure to be 60x150 ft.; fireproof; plans by Joy-Marriott Co., Birmingham. (Lately noted.)

Ala., Birmingham—Waists.—J. Leopold & Son, 306 W. Baltimore St., are having plans prepared by Louis Levi, Munsey Bldg., Baltimore, to remodel building; occupied in part by Pereth Cohen for manufacture of ladies' waists.

Md., Baltimore—Asphalt.—Board of Estimates is considering establishment of asphalt plant to cost \$20,000.

Md., Baltimore—Waists.—J. Leopold & Son, 306 W. Baltimore St., are having plans prepared by Louis Levi, Munsey Bldg., Baltimore, to remodel building; occupied in part by Pereth Cohen for manufacture of ladies' waists.

Md., Baltimore—Shipyard.—John S. Beach-

am & Bro., Covington St., foot of Warren Ave., will erect two 1-story brick buildings, one 19x23 ft. and other 16x27 ft., on Key Highway; Smith & May, Archts., 1133 Calvert Bldg., Baltimore; Staylor Building Co., Contr.

Ark., Hixson—Cremery.—Company organized by H. H. Howell and Ray Norwood; will establish cremery; Mr. Norwood is Secy.

Ark., Texarkana—Wood Alcohol.—Penn Lumber Co., Bierne, Ark., will install wood-alcohol plant.

Fla., Blountstown—Denatured Alcohol.—E. M. Rumph, Mgr., Rumph Nursery Co., is interested in proposed installation of machinery to manufacture denatured alcohol from vegetables and farm waste. (See Machinery Wanted—Alcohol (Denatured; Wood).

Fla., Orlando—Ice-cream, etc.—Hand Ice-Cream & Cold-Storage Co., H. H. Baumgardner, Prest., will erect cold-storage building; date of opening bids not set; install additional equipment; daily capacity plant, 50 gals. ice-cream, full capacity cold storage and 3000 qts. milk; lately noted Incptd., capital \$100,000. (See Ice and Cold-storage Plants.)

Fla., Pensacola—Turpentine, etc.—Milwaukee company purchased 18-acre tract from West Pensacola Land Co. on which to build turpentine and oil-distillation plant, reported to cost \$290,000; install pumping plant.

Fla., Tampa—Brushes.—Florida Brush Co. will incorporate with \$15,000 capital and increase monthly output from 20,000 to 50,000 brushes.

Fla., Tarpon Springs—Glass.—Florida Glass Co. proposed by Mark D. Williams of Middleport, N. Y., now at Homeworth Inn, Tarpon Springs; to manufacture glass from Florida sand; has 6-acre deposit. (M. D. Williams lately reported to establish glass factory.)

Ga., Macon—Candy, etc.—B. S. Mathews Co., capital \$25,000, Incptd. by B. S. Mathews, T. L. Mathews and B. E. Mathews.

Ga., Macon—Storage Batteries.—J. L. Edwards will establish plant to manufacture storage batteries; occupy building to be erected by Herbert F. Hale at Oglethorpe and 3d Sts.; 1 story; 27x92 ft.; concrete and brick; cost \$3000; Curran R. Ellis, Archt., Macon; R. H. Smalling & Sons, building contractors.

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Ga., Savannah—Clothing and Shirts.—Brown-Evans Mfg. Co., capital \$15,000, Incptd. by Chas. P. Brown, Jr., Edwin C. Evans and Paul Barnett.

Mo., Kansas City—Tires and Rubber.—Kansas City Tire & Rubber Corp. purchased 3½-acre site, will remodel building and install equipment to manufacture tires; daily capacity 500.

Mo., Kansas City—Bookkeeping Register.—Automatic Bookkeeping Register Co. purchased building now occupied by it at 18th and Wyandotte St. and will remodel.

Mo., Kansas City—Tires and Rubber.—Kansas City Tire & Rubber Corp. purchased 3½-acre site, will remodel building and install equipment to manufacture tires; daily capacity 500.

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Bethel Edrington, Loren L. Watson, Colyar
Bese and others.

Tenn., Memphis—Lime, etc.—Fischer Lime
& Cement Co., 269 Walnut St. (and 216 E.
Markham St., Little Rock, Ark.), capital
\$50,000, incptd. by W. W. Fischer, W. N. Fry,
Eugene Hatfield and F. R. Thomas. (Late-
ly incorrectly noted.)

Tex., Fort Worth—Creamery.—Nissley
Creamery Co. increased capital from \$50,000
to \$100,000.

Tex., Paris—Candy and Bottling.—Paris
Candy & Bottling Co., capital \$30,000, incptd.
by W. H. P. Anderson, Sayers Boyd and J.
E. Condray.

Va., Farmville—Ice-cream, etc.—W. C.
Newman (operating 30-ton ice plant) may
install ice-cream and creamery equipment.
(See Machinery Wanted—Ice-cream Equip-
ment; Creamery Equipment.)

Va., Newport News—Marine Railway.—O.
A. Bixom of Battery Park, Va., contem-
plates building marine railway and oyster-
shucking plant; petitioned city for two 100-
ft. sites on boat harbor.

Va., Norfolk—Garments.—Bernice Gar-
ment Co., capital \$25,000, incptd.; M. Sander-
lin, Prest.; Thos. J. Powell, Secy-Treas.

Va., Norfolk—Paint and Varnish.—Old Do-
mestic Paint & Varnish Co., capital \$15,000,
incptd.; W. M. Moore, Prest.; J. O. Pope,
Secy.

W. Va., Cedar Grove—Glass Products.—M.
J. Owen and E. D. Libbey of Toledo, Ohio,
are reported to build plant to manufacture
glass products; estimated cost \$250,000; pur-
chased gas rights on 7000 acres in Kanawha
county, containing 8 producing wells with
daily production 40,000,000 cu. ft. gas. Mr.
Libbey wires Manufacturers Record: "No
plans have been made for factory; matter
simply under consideration at this time."

W. Va., Clarksburg—Automobile Fenders.—
Sava-A-Life Fender Co., capital \$150,000,
incptd. by J. W. Agnew, W. M. Miller and L.
C. Prichard.

W. Va., Huntington—Wheels, etc.—Fred
Thornton of West Huntington, W. Va., con-
templates establishing plant to manufacture
tire wheels and harps.

W. Va., Wheeling—Bakery.—General Bak-
ing Co. will rebuild plant reported burned
at loss of \$50,000.

W. Va., Williamson—Bottling.—Mint Cola
Bottling Co., capital \$10,000, incptd. by Alex.
Bishop, W. O. Porter, C. R. Hodges and
others.

MOTORS AND GARAGES

D. C., Washington—Garage.—Mrs. R. E.
Trimble let contract to Jas. C. Marsh,
Southern Bldg., Washington, to remodel 2-
story brick garage at 326-28 New Jersey Ave.
N. W.; cost \$7500; Macneill & Macneill, Archi-
tects, Union Trust Bldg., Washington.

Fla., Fort Pierce—Automobiles.—Coats
Auto Service Co., capital \$5000, incptd.; J.
G. Coats, Prest.; F. L. Hemming, V.P.;
Clark K. Platts, Secy-Treas.

Fla., Miami—Automobiles.—Moore Car Co.,
capital \$50,000, incptd.; W. G. Moore, Prest.;
A. J. Scherer, V.P.; B. G. Hewitt, Secy-Treas.;
will manufacture motorcycles; purchased site
on which to build assembling plant; at present
will have parts of car manufactured under contract
at other plants.

Ga., Atlanta—Assembling Plant.—Chevrolet
Motor Co., Flint, Mich., leased 2-story build-
ing at Nos. 330-336 Edgewood Ave. for offices
and warehouse; later plans to build assem-
bling plant requiring site of several acres;
annual capacity 15,000 cars. (Lately noted.)

Ga., Atlanta—Garage.—Hubbell-Oakes Motor
Co., 451-453 Peachtree St., will erect garage.

Ky., Louisville—Automobiles.—Auto Credit
Sales Co., capital \$10,000, incptd. by E. S.
Tachau, John W. Brooks and C. A. Brandt.

Md., Baltimore—Garage.—Forest Park Co.,
1118 Fidelity Bldg., let contract J. W. Nelson,
Raspeburg, Md., to erect garage at Forest
Park; 1 story; brick.

Md., Baltimore—Garage.—Forest Park Garage
Co. has plans by and let contract to C.
W. Littleton & Son, 4318 Liberty Heights
Park; brick; semi-fireproof; 80x70x102 and
irregular; cost \$7000.

Mo., St. Louis—Automobile Parts and Ac-
cessories.—Shurnuff Mfg. Co., capital \$12,000,
incptd. by Thos. M. Taylor, J. P. Parker
and J. E. McCarthy.

S. C., Charleston—Garage.—W. T. Smith
Co., capital \$7500, incptd. by W. T. Smith and
J. R. Young.

Tenn., Chattanooga—Garage.—E. M. Prig-
more let contract to Chandler & Campbell,
Chattanooga, to make plans for and con-
struct 2-story 70x145-ft. concrete and brick
garage; cost \$20,000; composition roofing;

concrete and mill-construction floor; steam
heat; Warner electric elevator.

Tex., Clarendon—Garage.—Allen & Massie
let contract to Mr. Finton to erect \$7000 gar-
age; 50x115 ft.; brick; gravel roof; concrete
floor; electric lighting; plans by Albert Ran-
dell.

Tex., San Antonio—Garage.—Adolph Herff,
Sr., Ferd P. Herff and Alfred Duerler have
plans by August A. Herff Co. for automobile
salesroom and garage; 1 story; hollow tile
and brick; frontages of 80 and 77 ft. and
depth of 155 ft.; occupied by E. H. Labadie
Auto Co.

Tex., Waco—Garage.—E. S. Thompson will
build 98x65-ft. 1-story garage; brick construc-
tion; cost \$7000.

Tex., Waco—Garage, etc.—Crespi & Co. let
contract J. E. Johnson to erect building
at 10th and Austin Sts.; 2 stories; 60x125 ft.;
brick faced; western half on both floors to
be occupied by wholesale automobile acces-
sory company, first floor of east half by
garage and east half of second floor by
Crespi & Co. for cotton offices; cost \$24,000;
plans by Ross & Cason.

RAILWAY SHOPS, TERMINALS, ROUNDHOUSES, ETC.

La., Monroe—St. Louis, Iron Mountain &
Southern Ry., E. A. Hadley, Ch. Engr., St.
Louis, Mo., is reported to build machine
shop and office building.

Tenn., Knoxville—Southern Ry., W. H.
Wells, Ch. Engr. Constr., Washington, D.C.,
will erect and equip following buildings at
Coster shops: Steel car repair shed (main
building), 73x480 ft.; workshop, 51x100 ft.;
48,000-gal tank for water supply; reclaiming
shed, 37x32 ft.; scrap dock, 52x400 ft.; dry
lumber shed, 32x100 ft.; reported cost, \$200,000.

Va., Richmond—Richmond & Rappahannock
River Ry. let contract to John T. Wil-
son Co., Richmond, to erect 18x50-ft. build-
ing for housing gasoline-electric cars, work-
shop, oil and supply room and locker room;
cost \$6500 complete; brick structure; con-
crete foundation; concrete slabs with slag
roofing; granolithic floor; steam heat; elec-
tric lighting; plans by Carnal & Johnson,
Richmond. (Lately noted under Stores.)

ROAD AND STREET WORK

Ala., Bay Minette—Baldwin County
Commrs. opened bids to construct road lead-
ing north and south from Fairhope; bids on
2 routes; Abraham Bros. & Giddens of Mont-
gomery, Ala., are lowest bidders at \$15,077
and \$9,957.87; let contract L. C. Rollinson of
Montgomery at \$5774 to construct road from
Fairhope to Zundels.

Ala., Dadeville—Tallapoosa county will
construct 6 mi. road and bridges from Dade-
ville to Jackson's Gap; County Commrs. re-
ceive bids until Jan. 12; G. J. Sorrell, Judge
of Probate. (See Machinery Wanted—Road
Construction.)

Ark., Waldron—State Highway Dept., Lit-
tle Rock, will make survey for road from
Waldron to Coaldale, 22 mi.; plans to organ-
ize road district.

Fla., Fort Lauderdale—Broward county
voted \$165,000 bonds to construct roads and
bridges in special road and bridge district.
Address County Commrs. (Lately noted.)

Fla., Fort Myers—Lee county voted \$125,-
000 bonds to construct 51½ mi. of hard-surfaced
roads from Marco through Everglade
to Dade county line; previous election illig-
ual. Address County Commrs. (This super-
seded Oct. item.)

Fla., Pensacola—Escambia county post-
poned election from Feb. 1 to Nov. 14 to vote
on \$1,000,000 bonds to construct hard-surfaced
roads and concrete and steel bridges. Ad-
dress County Commrs. (Noted in Oct.)

Fla., St. Augustine—St. Johns County
Commrs., I. I. Moody, Chrmn., will pave
with vitrified brick King St. from San
Sebastian bridge to Horn Rd., 1900 ft., 23 ft.
wide, with either flushed or raised curbing;
bids until Jan. 4. (See Machinery Wanted—
Road Construction.)

Fla., Tampa—City will pave with bitumi-
nous macadam 15th St., Michigan to 26th
Ave., width 20 ft., 6000 sq. yds.; South Da-
kota Ave., Snow Ave. to Bayshore Blvd.,
width 20 ft., 5000 sq. yds.; Commrs. of Pub-
lic Works, D. B. McKay, Chrmn., receives
bids until Dec. 21. (See Machinery Wanted—
Paving.)

Fla., Tarpon Springs—City let contract
Southern Concrete & Construction Co., Tar-
pon Springs and St. Petersburg, to lay about
20,000 sq. ft. sidewalk.

Ga., Savannah—City appropriated \$65,000
for street improvements, \$30,000 being for
opening streets and \$35,000 for paving. Ad-
dress The Mayor.

Tenn., Chattanooga—Garage.—E. M. Prig-
more let contract to Chandler & Campbell,
Chattanooga, to make plans for and con-
struct 2-story 70x145-ft. concrete and brick
garage; cost \$20,000; composition roofing;

Ky., Albany—John G. Huff & Co. are low-
est bidders at \$8640 to construct 3 mi. mac-
adam road.

La., Franklin—St. Mary Parish let con-
tract Perry Bonner to construct road be-
tween Franklin and Iberia.

Miss., Kosciusko—Attala county let con-
tract F. D. Harvey & Co., Memphis, Tenn.,
to construct 32 mi. of road.

Mo., Kansas City—Joplin Short Route
Rock Road Assn. organized to build rock
road from Cleveland to Joplin.

Mo., Marshall—Saline county votes Jan.
19 on \$1,510,000 bonds to rock 192 mi. road.
Address County Commrs. (Lately noted to
vote Feb. 19.)

Mo., Nevada—Vernon county will vote on
rock-surfacing 250 mi. road. Address County
Commrs.

Mo., Sedalia—City let contract W. Menefee,
Sedalia, to construct 9200 sq. yds. vertical
fiber brick paving with asphalt filler on
Moniteau Ave.; estimated cost, \$16,000; F.
T. Leaming, City Clerk. (Call for bids
lately noted.)

N. C., Greenville—Pitt county, Chicod
township, voted \$50,000 bonds to construct
roads; S. A. Congleton, Chrmn. County
Commrs. (Noted in Oct.)

N. C., Greensboro—City voted \$50,000 bonds
for paving and other street improvement.
T. J. Murphy, Mayor. (Noted in Nov. to
vote.)

N. C., High Point—City contemplates vot-
ing on \$50,000 bonds to improve streets. Ad-
dress The Mayor.

N. C., Lincolnton—City let contract Noll
Construction Co., Chattanooga, Tenn., to
pave street from Main St. to Union Depot
with asphaltic concrete and construct 20
additional blocks of cement sidewalk.

Okl., Muskogee—Muskogee County Com-
missioners let contract H. B. Nelson, Mus-
kogee, at about \$8000 to improve 4½ mi. earth
road, 26 ft. wide; J. B. Clonts, County Eng-
ineer. (Noted in November.)

Okl., Shawnee—City will construct 20
blocks sheet-asphalt pavement; F. D. Brown,
City Engr.

Okl., Tulsa—City will pave Cameron St.,
Latimer St., Lansing Ave., etc.; City Com-
missioners receive bids at office E. B. Cline,
City Auditor, until Dec. 30. (See Machinery
Wanted—Paving.)

Tenn., Morristown—Hamblen County
Road Commrs. will issue \$150,000 bonds for
road construction; will make surveys and
let contract; John Sharp, Engr., Morris-
town.

Tenn., Murfreesboro—Rutherford county
defeated proposition to purchase roads.
(Lately noted.)

Tex., Belton—Bell County Court appropri-
ated \$10,000 to gravel road in Rogers Road
Dist.

Tex., Clarksville—Red River County Road
Dist. No. 1, Geo. Morrison, County Judge,
let contract to Texas National Construction
Co., Clarksville, to construct about 50 mi.
concrete and gravel roads, cost about \$300,-
000; J. R. Johnson, Engr. (Bids lately noted.)

Tex., Dallas—Dallas county will construct
asphalt-macadam pavement on Preston Rd.
from city limits to Armstrong Ave.; Chas.
E. Gross, County Auditor, receives bids until
Dec. 27. (See Machinery Wanted—Paving.)

Tex., El Paso—El Paso County Commrs. let
contract Standard Engineering & Construction Co.
of Dallas at \$18,023.20 to pave Bishop Ave.
from Jefferson to Davis St. with Uvalde rock
asphalt.

Tex., El Paso—El Paso County Commrs. let
contract Texas Bitulithic Co. of Dallas to
construct 3 mi. bitulithic roadways in vicinity
of Ysleta and Socorro; heavy standard
bitulithic on road through Ysleta and light
standard bitulithic on Socorro Rd.

Tex., Gilmer—Upshur county, Justice Pre-
cinct No. 7 (including Big Sandy), voted
\$75,000 bonds to construct roads. Address
County Commrs. (Noted in Nov.)

Tex., Gonzales—Gonzales county, Road
Dist. No. 2 (including Waelde) votes Feb.
5 on \$75,000 bonds to construct roads. Ad-
dress County Commrs.

Tex., Grand Saline—City will vote Jan.
10 on \$10,000 bonds for street improvements.
Address The Mayor.

Tex., Groveton—Trinity County Commrs.
will issue \$120,000 bonds, of which \$100,000
will be expended for road construction and
\$20,000 to pay one-half cost of building bridge
across Trinity River at Riverside; other half
to be paid by Walker county.

Tex., Lagrange—Fayette county Commrs.'
Precinct. will vote on bond issue for im-
provements to 70 mi. road; Schulenburg por-
tion of National Highway (San Antonio to

Houston) has been surveyed; J. C. Baum-
garten, Prest. Schulenburg Highway League,
Schulenburg.

Tex., Liberty—Liberty County Commrs.
let contract N. A. Dawson of San Antonio
at \$25,000 to construct gravel highway on
road from Liberty to Livingston; use local
gravel.

Tex., Lockhart—Caldwell County Com-
missioners, Prec. No. 2, Justice of the Peace
Dist. No. 2 and Road Dist. No. 3 votes Jan.
22 on \$50,000 bonds to construct roads and
complete 8 mi. of proposed Houston San
Antonio public highway. Address County
Commrs. (Lately noted.)

Tex., Lufkin—Angelina county, Lufkin
Prec., votes Feb. 26 on \$300,000 bonds to con-
struct roads. Address County Commrs.

Tex., Marlin—Falls County Commrs. plan
organization of drainage district to reclaim
bottom land; construct levee system; Arthur
Stiles, State Reclamation Engr., Aus-
tin, Tex.

Tex., Orange—Orange county, Prec. No. 4,
will vote again on \$40,000 bonds for road and
bridge construction. Address County
Commrs. (Bonds for \$50,000 lately noted de-
fected.)

Tex., Schulenburg—City, Gus Russek,
Mayor, contemplates paving 3 blocks; prob-
ably creosoted blocks, cement or vitrified
brick; may construct additional paving later.
(See Machinery Wanted—Paving.)

W. Va., Pineville—Wyoming County Com-
missioners, H. M. Cline, Prest., will issue
\$500,000 bonds for road improvements.
(Bonds noted voted in September.)

W. Va., Welch—McDowell county road con-
struction progressing; Sam G. Walker & Co.,
Welch, W. Va. (present address, Cucumber,
W. Va.), noted in Sept. as receiving con-
tract, advise that 35-mi. contract includes
about 300,000 yds. excavation, 10 reinforced
contract bridges, and cast-iron pipe, with
cast-iron head walls every 400 ft.; bond
issue, \$200,000.

SEWER CONSTRUCTION

Ala., Citronelle—City let contract J. W.
Gurley & Co., Mobile, at \$23,088 to construct
sewer system and water-works; includes
23,705 ft. 8 and 10-in. sewers, 54 manholes
and 10 lampholes; Edgar B. Kay, Engr., Tus-
caloosa, Ala. (Call for bids lately noted.)

Ark., Lake Village—City will construct
5000 ft. 12-in. sewers, 12,000 ft. 10-in. sewers
and 7000 ft. 8-in. sewers; Imhoff tank costing
\$1750; total cost \$15,000; no machinery re-
quired; J. B. McCrary Co. of Atlanta, Ga.,
and Little Rock, Ark., Engr. and Contr.

Ark., Rogers—City will soon set date for
bids to construct septic tank, contact beds
and about 3500 ft. 12-in. tile; cost \$6000 to
\$8000; M. A. Earle & Co., Engrs., Muskogee,
Okl. (Lately noted.)

La., Covington—City is reported to vote
during Jan. on \$71,000 bonds for sewer sys-
tem and water-works. Address The Mayor.

La., New Orleans—City will construct sub-
surface drainage in Gravier St. from Hagan
Ave. to S. Clark St., and in S. Clark St.
from Gravier to Perdido St.; bids received
at office Dept. of Public Finances, Account-
ing Div., A. G. Ricks, Commr., until Dec. 23.
(See Machinery Wanted—Sewer Construc-
tion.)

Md., Baltimore—City rejected bids aggregat-
ing \$40,000 to construct 3 sanitary sewers
and will undertake work by day labor; Calvin
W. Hendrick, Ch. Engr. Sewerage Com.,
American Bldg.

Md., Hagerstown—City plans to issue
bonds to construct sewer system; estimated
cost \$750,000; J. McPherson Scott, Mayor;
J. B. Ferguson, Ch. Engr.

Md., Mt. Washington—Mount Washington
Sewerage Co. Incptd. by Fred Bauernschmidt
(Forrest and Harford Aves.), John Bauern-
schmidt, John W. Elliott and others; has
properties formerly owned by Baltimore Sub-
urban Sewerage Co., including Cross Coun-
try Blvd.

Mo., Brookfield—City has plans for sewer
system in Dist. No. 34; soon receive bids.
Address The Mayor.

Mo., Jefferson—City is having plans pre-
pared for storm sewers on Walnut and Mc-
Carty Sts.

Mo., St. Louis—City will construct North
Baden public sewer, first section, and sewers
in Glaise Creek Sewer Dist. No. 12; bids
until Jan. 7; specifications, etc., obtainable
from Prest. Board of Public Service, Room
325 New City Hall. (See Machinery Wanted—
Sewer Construction.)

N. C., Greensboro—City voted \$75,000 bonds
for improvement, extension and equipment

of sewer and water systems. T. J. Murphy, Mayor. (Noted in Nov. to vote.)

N. C., Kings Mountain.—City's lately-noted sanitary sewer construction work is progressing; J. B. McCrary Co., Atlanta, Ga., Contr.; cost \$30,000; A. E. Cline, Mayor.

N. C., Winston-Salem.—Salem Congregation of Moravian Church let Granville Place sewer contract to L. B. Brickenstein, Winston-Salem; 6-in to 10-in. terra-cotta sewers; cost \$3000; connect with city outfall. (Granville Development Co. lately reported to construct sewers.)

Tex., Carthage.—W. C. Barnes and associates made City Council a proposition to install sewer system and water-works.

Tex., Cooper.—City contemplates sewerage and water-works installation. Address The Mayor.

Tex., Graham.—City will vote on bonds for sewer system. Address The Mayor.

Tex., Port Arthur.—City votes Dec. 28 on \$180,000 bonds to construct sewer-drainage system. Address The Mayor.

Tex., Venus.—City will vote Jan. 11 on \$10,000 bonds to install sewer system. Address The Mayor.

Va., Norfolk.—City will construct concrete drain and culvert in south end Dinwiddie St.; let contract A. F. Flynn for concrete work; \$5000 available.

W. Va., Kenova.—City will construct sewer system; 4190 ft. 24-in., 2470 ft. 32x40-in., 2700 ft. 3x4-ft., 1370 ft. 3½x12-ft. pipe; bids until Dec. 23; Oliver & Mauplin, Engrs., Huntington, W. Va.; J. S. Crossen, Mayor; \$55,000 bonds voted; lately noted. (See Machinery Wanted—Sewer Construction.)

TELEPHONE SYSTEMS

Ark., Arkansas City.—Southwestern Telegraph & Telephone Co. contemplates expending \$3000 to rebuild exchange; W. L. Jones, Dist. Mgr.

Fla., Chipley.—Southern Bell Telephone & Telegraph Co. (main office, Atlanta, Ga.) purchased Florida Telephone Co.; property consists of 4 exchanges and 300 mi. long-distance lines; exchanges located at Chipley, Graceville, Lynn Haven and St. Andrews; reported to expend \$40,000 to \$50,000 for improvements.

N. C., Bayboro.—Pamlico Telephone Co., capital \$5000, incptd. by G. M. Reel, B. E. Reel and T. W. Binson.

TEXTILE MILLS

Fla., Ocala—Knit Goods.—J. J. Littlejohn, Jonesville, S. C., proposes establishment of knitting mill.

Ga., Columbus—Cotton Cloth.—Swift Mfg. Co. will build addition costing \$100,000 to \$150,000; J. E. Sirrine, Archt.-Engr., Greenville, S. C.

Ga., Columbus—Colored Cottons, etc.—Muscogee Mfg. Co. will build additions; reported these will include bleaching; Chas. R. Makepeace & Co., Archt.-Engr., Providence, R. I.

Md., Baltimore—Cotton Cloth.—Mt. Vernon-Woodberry Mills will build additions; 1 one-story and 2 two-story additions; brick; concrete roof; concrete floors; semi-fireproof; fire-doors; plumbing to cost \$4000; total cost buildings \$12,000; let contract to W. T. Childs, 14 W. Fayette St.; Jos. Evans Sperry, Archt., Calvert Bldg.; both of Baltimore.

Miss., West Point—Cotton Yarn.—Cardinal Mills will double output.

N. C., Scotland Neck—Hosiery.—Crescent Hosiery Co. increased capital from \$50,000 to \$200,000.

N. C., Winston-Salem—Knit Goods.—P. H. Hanes Knitting Co. will build 200x100-ft. 4 or 5-story standard mill construction addition; install machinery practically doubling present daily capacity.

S. C., Great Falls—Print Cloth.—Republic Cotton Mills has plans for No. 2 mill; 32,640 spindles, 740 looms, accompanying preparatory machinery, etc.; J. E. Sirrine, Greenville, Archt.-Engr., sends Manufacturers Record further details as follows: "Mill electrically driven, using individual motors, with exception cardroom machinery, which will be group driven; reinforced concrete building 400x133 ft., 3 stories high, costing \$134,000; warehouse 175x100 ft., 2 stories high, having storage capacity 3000 bales cotton, costing \$17,000; boiler-room, costing \$3000; steam plant for heating and slashing; 250,000-gal. reservoir for fire protection; contracts for 80 tenement-houses, costing \$60,000, let to John L. Hamby, Greenville, S. C.; fire protection system to cost \$12,500; humidity equipment, \$6000; heating plant, \$6000; tex-

tile machinery, \$322,000; daily capacity 30,000 yds. print cloth; probably award plant buildings contract about Jan. 1. (This includes some details lately mentioned.)

S. C., Woodruff—Cotton Cloth.—Woodruff Cotton Mills let contract Fiske-Carter Construction Co., Greenville, S. C., to build 4-story 12x80-ft. addition; mill construction; J. E. Sirrine, Archt.-Engr., Greenville, S. C. (Lately reported to build addition, install additional new spindles, etc.)

S. C., Woodruff—Knitting and Weaving Yarn.—W. S. Gray Cotton Mills will build addition; 65x100 ft.; 2 stories.

Tenn., Sweetwater—Cotton Products.—American Textile Co. will, it is reported, build additions.

Tenn., Corsicana—Cotton Goods.—Corsicana Cotton Mill Co. will enlarge plant.

Tenn., Dallas—Cotton Goods.—Dallas Cotton Mills will, it is reported, expend \$50,000 for enlargements and improvements.

WATER-WORKS

Ala., Citronelle.—City let contract J. W. Gurley & Co., Mobile, at \$23,088 to construct water-works and sewer system, and to Walsh & Windham, Chattanooga, Tenn., for tank and tower; water-works include powerhouse, steel pressure tank, reinforced concrete receiving reservoir, oil engine, pump, compressor, 28 fire hydrants, 8830 ft. 6-in. pipe, 2640 ft. 8-in. cast-iron pipe and 10,000 ft. galvanized pipe, valves, etc.; Edgar B. Kay, Engr., Tuscaloosa, Ala. (Call for bids lately noted.)

Ala., Cullman.—City will lay 2 mi. 6-in. water mains to cost \$12,000; let contract about April; A. G. Coe, City Clerk.

Ala., Moulton—Moulton Water-works (C. Prince and H. C. Dunn), lately noted as receiving franchise, asks prices on pumping outfit. (See Machinery Wanted—Pumping Plant.)

Ark., Dardanelle.—City engaged J. F. Halliday of McAlester, Okla., as engineer for water-works improvements to cost \$15,000; J. F. Stevenson, Secy. Commrs. (Noted in October.)

Ark., Little Rock.—Arkansaw Water Co. increased capital stock from \$500,000 to \$2,500,000.

Fla., Orange Springs.—Florida Farms and Homes, Jas. R. Murphy, Prest., Palatka, Fla., will install water plant. (See Miscellaneous Enterprises.)

Ga., Fitzgerald.—City Water and Light Committee let contract to Case & Cochran, 1507 Candler Bldg., Atlanta, Ga., to construct reinforced concrete clear-water basin, 9 ft. diam. and 18 ft. deep; cost \$6300, not including excavation. (Bids lately noted.)

Ga., Savannah.—City appropriated \$15,000 to extend water mains; E. R. Conant, Ch. Engr. Water Dept. (Lately noted.)

Ky., Hazard.—Hazard Water Co. reorganized; plans to extend pipe through all main streets and install filtering plant at powerhouse.

La., Covington.—City is reported to vote during January on \$71,000 bonds for water-works and sewer system. Address The Mayor.

N. C., Greensboro.—City voted \$75,000 bonds for improvement, extension and equipment of water and sewer systems. T. J. Murphy, Mayor. (Noted in Nov. to vote.)

Okl., Welch.—City will construct water-works and electric-light plant; issue \$32,000 bonds; Wm. McIntosh, Engr., Oklahoma City; S. M. Booton, City Clerk.

S. C., Charleston.—City defeated \$1,500,000 to purchase water-works of Charleston Light & Water Co. and \$100,000 for improvements and extensions. John P. Grace, Mayor. (Lately noted to vote.)

Tex., Carthage.—W. C. Barnes and associates made proposition to City Council for installation of water-works and sewer system.

Tex., Cooper.—City contemplates installing water-works and sewerage; City Council has not yet taken definite action. Address The Mayor.

Tex., Dallas.—City will lay water mains along Oakliff St.; cost \$21,500; J. M. Preston, City Engr.

Tex., Elgin.—City issued \$11,000 bonds to improve water-works. Address The Mayor. (Noted in June.)

Tex., Fort Worth.—City plans to vote Jan. 6 on \$500,000 bonds to complete water-works, pipe water from Lake Worth to city, etc.; F. J. von Zuben, City Engr. (Holman & Laird, Consult. Engrs., St. Louis, Mo., lately noted to have submitted final report of survey of water-works, recommending various improvements.)

Tex., Galveston.—City Commrs. let contract Isaac Heffron of Galveston at \$60,000 to lay submerged 30-in. water main across Galveston Bay; pipe buried without unjoining those sections still intact, so as to provide emergency main in case of accident to causeway main; length of entire submerged main 9108 ft., of which about 4000 ft. parallels arches of causeway; of this 4000 ft., 800 ft. of pipe is gone; much of remainder of that section is moved from its right of way, but can be restored; remaining sections of 2550 ft. on each side of arched section are still intact; salvage and relay at depth of 10 ft. in bay bottom, central section of 4000 ft.; use cofferdams in laying and calking sections so that none of calking will have to be done under water. (City lately noted to vote Jan. 15 on \$200,000 bonds to repair, restore or submerge water mains across Galveston Bay.)

Tex., Texarkana.—City voted to improve water-works. Address The Mayor.

Tex., Tyler.—City votes Jan. 23 on \$250,000 bonds to construct water-works; site of main reservoir 6 mi. from city; double present capacity and provide for 75,000 population; Henry E. Elrod, Consult. Engr., Dallas. (Lately noted.)

Va., Norfolk.—Board of Control, T. S. Purdie, Chrmn., asks bids until Jan. 8 to rebuild lately-noted 3 dams and spillways; T. B. Dornin, Engr. Water Dept., in charge. (See Machinery Wanted—Dams and Spillways.)

W. Va., Fairmont.—City contemplates installing water meters to cost \$30,000; Ira Smith, Commr. Water and Sewers.

WOODWORKING PLANTS

Ark., Rector—Shingles.—J. A. Taylor will rebuild shingle and planing mill burned at loss of \$8000.

Fla., Brooksville—Veneer.—Brooksville Crate Mfg. Co. will rebuild veneer mill reported burned at loss of \$15,000.

N. C., Winston-Salem—Coffins.—Turner-White Coffin Co. let contract Allen & Foster of North Wilkesboro, N. C., to erect building; 60x120 ft.; 4 stories; cost \$10,000.

S. C., Charleston—Boxes.—Woodstock Hardwood & Spool Mfg. Co. Key Box 615, will rebuild main factory and office lately burned; install machinery, with direct electric motor drive, to manufacture wooden boxes. (See Machinery Wanted—Box Machinery; Electric Motors.)

Tex., Beaumont—Staves.—Sabine Stave Co., capital \$15,000, incptd. by L. J. Witherspoon, M. C. Trumbull and H. W. Biggs.

Va., Charlottesville—Baskets and Boxes.—Charlottesville Basket & Box Co. organized; O. T. Harman, Prest. Treas.; L. J. Harman, Secy.; L. A. Funk, V. P. and Mgr.; let contract to King Lumber Co., Charlottesville, to erect 75x50-ft. \$6000 mill construction building; will install veneer, basket and box machinery. (Lately noted incptd. with \$15,000 capital, etc.)

Va., Galax—Furniture.—Lineberry Bros. will rebuild furniture factory lately-noted burned; purchased machinery.

Va., Galax—Furniture.—Galax Furniture & Lumber Co. will rebuild plant burned at loss of \$56,000.

FIRE DAMAGE

Ala., Attalla.—W. G. Little's residence; loss \$3000.

Ala., Birmingham.—Mr. Lewis' residence, Holcome Barber Shop and Drug Store; J. C. Anderson's residence; Geo. Schoettling's store and Germania Park.

Ala., Mobile.—John F. Yeend's residence at 110 Dexter Ave.; Geo. L. Clinton's residence at 106 Dexter Ave.; Phillip Cosminsky's residence at 106 Dexter Ave., F. M. Backes, Agt.; Dr. A. Festorazzi's residence at 50 Dexter Ave.

Ala., Tuscaloosa.—G. W. Smith's residence; loss \$3000.

Ark., Princeton.—Princeton Lumber Co.'s planing mill; loss \$3000.

Fla., Brooksville.—Brooksville Crate Mfg. Co.'s veneer mill; loss \$15,000.

Fla., Key West.—E. H. Gato Cigar Co.'s ment; contracted for electricity.

Fla., Lake City.—Dr. Griffin's residence, owned by M. Stein; Sam Wilson's residence; tenant-house owned by H. A. Wilson.

Fla., Plant City.—Buildings owned by Edgar Chapman and occupied by O. K. Bakery, plant; loss \$50,000.

Harrington & Clinton, W. W. Carlton and S. F. Dudley.

Fla., St. Augustine.—State Arsenal. Address Custodian; loss \$15,000 to \$20,000.

Fla., Trillary.—Florida Tuberculosis Sanatorium; loss \$25,000.

Ga., Alston.—A. T. and K. M. Johnson's gin; loss \$6000.

Ga., Cordele.—Cordele Daily Tribune; loss \$15,000.

Ga., Elberton.—Building owned by J. G. Tinsley, Richmond, Va., and occupied by Elbert County Supply Co.; loss \$16,000.

Ga., Savannah.—Pearce & Battley's open-flow warehouse; loss on building \$4000.

Ga., Stillmore.—High school (address The Mayor), loss \$10,000; Methodist church and parsonage, Rev. Silas Johnson, pastor, loss \$10,000.

Ky., Louisville.—Apartment houses; 2 stories; slab foundation; dead roof, siding, windows, doors, etc.; cost \$60,000; J. C. W. Jones, architect.

La., New Orleans.—M. R. McKenzie's residence at 233 Adam St.; loss \$3700.

Md., Baltimore.—National Specialty Co.'s jewelry and novelty plant on second floor at 219 W. Baltimore St.; estimated damage to building, \$2000.

Md., Baltimore.—Broadway Theater at 11-13 S. Broadway, owned by Broadway Theater Co., Morris Klein, Prest.; loss \$30,000.

Md., Cumberland.—Cumberland Office Supply Co.'s printing and bookbinding plant; loss \$20,000.

Md., Emmitsburg.—Jos. Kemper's residence.

Md., Wingate's Point.—Oyster-House, owned by Wm. P. Andrews, Crapo, Md.; loss on building and fixtures \$5000.

Md., Linthicum Heights, R. F. D. Lansdowne.—W. Hampton Linthicum's residence; loss \$7000.

Miss., Columbia.—Having p. Memphis, veneer; 1 story; heat; cost \$10,000.

Mo., Kansas City.—Apartment house; 2 stories; cost \$15,000.

Mo., St. Louis.—Double flat-top house; 2 stories; cost \$15,000.

Mo., St. Louis.—Apartment house; 2 stories; cost \$15,000.

N. C., Monroe.—Apartment house; 2 stories; cost \$15,000.

N. C., Monroe.—Shute Bldg., occupied in part by Holloway Bros. and Southern Express Co.; loss \$5000.

N. C., Newton.—C. W. Taylor's store at Oliver's Cross Roads; loss \$3000 to \$4000.

Ola., Sand Springs.—Dr. E. M. Lewis' residence.

S. C., Chester.—George Cornwell's residence.

S. C., Spartanburg.—Red Iron Backet building owned by John D. Collins; loss \$40,000.

S. C., Timmonsville.—Methodist Church; loss \$12,000. Address The Pastor.

Tex., Athens.—W. A. Mailey's residence on Larkin St., owned by Mr. Shaw, Eustace, Tex.

Tex., Ballinger.—Missouri Milling Co.'s flour mill and grain elevator; loss \$40,000.

Tex., Bandera.—Three buildings owned by Jim Cravely and occupied by Lee Ristinger, B. F. Lankford, Sr., Z. Q. Mullin; loss \$6000.

Tex., Corsicana.—G. Wes Martin's barn; loss \$1000.

Tex., Keene.—Graves Mercantile Co.'s store; loss \$6000.

Tex., Rio Grande.—Rio Grande City Lumber Co.'s yard and office; Teodoro Escalante's store; Rio Grande Garage; Masonic Hall; total loss \$50,000.

Tex., San Marcos.—Carl Smith's gin; loss \$6500.

Tex., Winona.—Joe Matthews' residence; loss \$3000.

Tex., Waxahachie.—Tom Bullard's residence; loss \$3000.

Tex., Wills Point.—C. J. Montague's residence; loss \$6000.

Va., Arvonia.—Price P. Glover's barn, stable and cow barn in James River Dist.

Va., Hopewell.—Tarrytown Hotel, owned by B. C. Moore.

Va., Petersburg.—Residence in Dinwiddie county owned by Henry H. Harris, advertising manager for Kent Furniture Co.; loss \$3000.

W. Va., Marytown.—Solvay Collieries Co.'s store; loss \$25,000 to \$30,000.

W. Va., Kabletown.—Chas. D. Johnson's store and dwelling.

W. Va., Wheeling.—General Baking Co.'s plant; loss \$50,000.

BUILDING NEWS

BUILDINGS PROPOSED

APARTMENT-HOUSES

D. C., Washington.—Harry Wardman, 1430 K St. N. W., will erect apartment-house at 135 T St. N. W.; 44x189 ft.; 4 stories; 10 suites on each floor; exterior tapestry brick; limestone trim; early English style; cost \$100,000 to \$150,000; A. M. Schneider & Co., Archts.; also erect 4 box-type dwellings on Jocelyn St.; English half-timbered type; 2 stories and attic; cost \$20,000.

Ky., Louisville.—W. O. Bonnill will erect apartment-house at 1028 Cherokee Rd.; 3 stories; six 3-room suites; vacuum cleaning equipment; separate laundries; boiler-room outside main building; first floor separated from basement by fireproof concrete construction; deadened floors; brick walls extending to roof, separating each set of apartments; hardwood floors; beam ceilings in living and dining-rooms; dining-rooms wainscoted; cost \$60,000; Joseph & Joseph, Archts., Louisville.

La., New Orleans.—Mose Hollander will erect frame apartment building; E. E. Sporl, Archt., New Orleans.

Md., Baltimore.—Wm. Strom, 511 Title Bldg., Baltimore, is preparing plans for apartment-house in Forest Park; 3 stories; 12 suites; cost \$25,000.

Miss., Clarksdale.—Gerald Fitzgerald is having plans prepared by John Galsford, Memphis, Tenn., for 12-flat building; brick veneer; metal tile roof; oak floor; steam heat; construction in spring. (Lately noted.)

Mo., Kansas City.—Chas. E. Phillips will erect two 2-story 4-apartment flats at 810-16 Indiana St.; cost \$24,000.

Mo., St. Louis.—H. A. Schoknecht will erect 2 two-story tenements at 4237-43 Holly St.; cost \$80,000; construction by owner.

Mo., St. Louis.—Charles Mueller will erect double flat on Union Blvd.

Mo., St. Louis.—Thomas E. Taylor will erect 2 double 3-room flats.

S. C., Greenville.—Raven I. McDavid will erect apartment-house and family hotel. (See Hotels.)

Tex., El Paso.—M. Aragon is having plans prepared by Braunto & Leibert, El Paso, for apartment-house at Rio Grande and Kansas Sts.; 4 stories; 57x90 ft.; brick; felt and gravel roof; hardwood floor; steam heat; concrete walk; cost \$30,000; construction in Feb. Address Archts. (Lately noted.)

Tex., El Paso.—W. A. White will erect brick apartment-house in Sunset Heights addition; cost \$18,000.

Tex., El Paso.—J. F. Flannigan opens bids Jan. 1 to erect apartment-house at Sunset Heights; 3 stories; brick; felt and gravel roof; hardwood floor; steam heat; concrete walk; cost about \$10,000; Braunto & Leibert, Archts., El Paso. Address Archts. (Lately noted.)

Tex., Galveston.—H. L. Nelson Furniture Co. will erect store and apartment building. (See Stores.)

Va., Norfolk.—Park Davies will erect two-family apartment-house on Llewellyn Ave.; cost \$3500.

Va., Norfolk.—Chas. H. East will erect 2 apartment-houses; 4 stories; 65x60 ft.; 8 suites; brick, steel and frame; gravel and slate roof; No. 1 rift pine floor; low-pressure steam heat; electric light; cost \$30,000 each; owner will supervise erection and is arranging to take sub-bids; construction begins Jan. 1.

Va., Norfolk.—H. Garrett Smith will erect apartment-house at Mowbray Arch and Mill St.; 4 stories and basement; 25x125 ft.; 8 suites; red tapestry brick and white stucco; red the canopy roof; stone and terra-cotta trimmings; tiled bathrooms, with tub and shower baths; hardwood floors; indirect lighting system; hot-water heat; porches to all apartments on Mowbray Arch; Browne & Tazewell, Archts., National Bank of Commerce, Norfolk; bids opened in January.

Va., Richmond.—J. Lee Davis will erect apartment-house at 2903 Monument Ave.; 3 stories; cost \$25,000.

Va., Richmond.—Muhleman & Kayhoe will erect tenement-house on West St.; 40x35 ft.; brick; slate roof; wood floors; cost \$6250; hot-water heat, \$450; Marcus Hullett, Archt., Real Estate Exchange Bldg., Richmond. Address Owners. (Lately noted.)

W. Va., Beckley.—H. T. Calfee has plans by A. F. Wysong, Princeton, W. Va., for

store and apartment-house; 50x54 ft.; 2 stories and basement; brick and hollow tile; hot-water heat; electric lights; asbestos roof; iron balconies and fire escapes; cost \$10,000.

ASSOCIATION AND FRATERNAL

Ky., Louisville.—Louisville Acrie No. 322, F. O. E., will erect building at 820 S. 2d St.; 56x120 ft.; 2 stories; enamel brick and white stone trimming; tile roof; hardwood and tile floors; cost \$30,000; heating, \$1000; lighting, \$600; Thos. J. Nolan, Archt., Courier-Journal Bldg., Louisville; M. G. Mature, Chmn. Bldg. Com., 500 Camp St. (Lately noted.)

Md., Baltimore.—Y. W. C. A., Miss Isabel Harmon, Secy., is having plans revised by Jos. Evans Sperry, 409 Calvert Bldg., Baltimore, for building at Park Ave. and Franklin St.; 6 stories; about 69x141 ft.; cost \$200,000; plans ready about Jan. 1; bids asked immediately thereafter. (Noted in November.)

Miss., Biloxi.—Biloxi Lodge, Loyal Order of Moose, will erect building; F. J. Weiss, Chmn. Bldg. Com.

N. C., Greensboro.—Masonic and Eastern Star Home has plans by W. C. Rodgers, Charlotte, N. C., for 2 wings to home near Pomona; 32 rooms; brick and cement; slate roof; maple floors; cost \$15,000; elevator \$2000; contract let about March 1; construction begins April 1. Address John J. Phoenix, Secy.-Treas. (Lately noted.)

Okl., Beaver.—A. F. and A. M. plan to erect business and lodge building; 50x140 ft.

Tex., Galveston.—Orange Lodge, B. P. O. E., will erect building; cost \$16,000.

Tex., Maypearl.—Farmers & Merchants' State Bank will erect building for lodge, bank and offices. (See Bank and Office.)

Va., Norfolk.—F. J. Robinson opens bids about Dec. 20 to erect addition to and alter building for stores, offices and lodge. (See Stores.)

BANK AND OFFICE

Fla., Howey.—W. H. Carr, Leesburg, Fla., will erect office building.

Fla., Jacksonville.—Riverview Board of Trade will expend \$10,000 to improve building and grounds.

Ky., Louisville.—Peter Lee Atherton will erect brick office building at 409 W. Market Sts.; cost \$25,000.

La., Monroe.—St. Louis, Iron Mountain & Southern Ry., J. R. Stephens, Ch. Engr., St. Louis, will erect office building.

Md., Baldwin.—Farmers' Co-operative State Bank organized with \$30,000 capital; will erect building.

Mo., St. Louis.—E. C. Simmons will erect building to be occupied by Franklin Bank; Geo. T. Riddle, Prest.; 1 story; white terra-cotta; dome; steel construction; marble columns at entrance; foundation to support 18 stories; 67x80 ft.; cost \$125,000; Guy C. Mariner, Archt., St. Louis.

Mo., Kansas City.—Drovers' National Bank is having plans prepared by Weary & Alford, 1907 S. Michigan Blvd., Chicago, to remodel building at 16th and Genesee Sts. for bank. (Lately noted.)

Mo., St. Louis.—Union Electric Light & Power Co., 12th and Locust Sts., is having plans prepared by Albert B. Groves, 314 N. 4th St., St. Louis, for office building at 9th and St. Charles Sts. (Previously noted.)

N. C., Rocky Mount.—Rocky Mount Savings & Trust Co. has plans by J. C. Stout, Rocky Mount, for bank building at 144 S. Main St.; construction probably in spring.

Okl., Miami.—First National Bank of Miami will expend \$6000 for improvements; extend present room 20 ft., build vault, change front and side of building, install marble fixtures and ceiling, safety deposit boxes, etc.

Okl., Tulsa.—E. P. Harwell, Secy.-Treas. McMan Oil Co., purchased site at 4th and Main Sts.; 50x90 ft.; will probably erect office building.

Tenn., Morristown.—First National Bank, Jas. R. Forney, Prest., expects to let contract in 60 days to erect bank building; cost \$50,000.

W. Va., Beckley.—H. T. Calfee has plans by A. F. Wysong, Princeton, W. Va., for

Tex., Claude.—Judge Logue, Prest. First State Bank, will erect 2-story brick bank and office building; steam heat.

Tex., Maypearl.—Farmers & Merchants' State Bank will erect building to replace burned structure; bank on first floor, lodge and offices; 25x80 ft.; brick; gravel roof; tile floors; steam heat; electric lighting; cost \$5000; bids opened early in Jan. Archt. not selected. (Lately noted damaged by fire.)

Va., Hopewell.—H. B. Goodloe Realty Corporation will erect office building on G St. near Broadway.

Va., Hopewell.—Weaver, Brown & George will erect store and office building. (See Stores.)

Va., Hopewell.—Southern Express Co., 71 Broadway, New York, will erect building; frame; 250x55 ft.

Va., Norfolk.—M. McKevitt will erect office building; 6 stories; brick and concrete; terra-cotta trimmings; 25x104½ ft.; fireproof; lower floor for store; upper floor, 80 offices; elevators; bids opened Dec. 30; Jas. W. Lee, Archt., Norfolk. (Lately noted.)

Va., Norfolk.—F. J. Robinson opens bids about Dec. 20 to erect addition to and alter store, office and lodge building. (See Stores.)

CHURCHES

Ga., Adel.—Methodist Church, Rev. J. C. G. Brooks, pastor, will erect building; cost \$10,000.

Mo., St. Louis.—Rev. Father Adrain, Arcadia, Mo., will erect granite church; cost \$45,000.

N. C., Wilmington.—Winter Park M. E. Church is having plans prepared by Jas. B. Lynch, Wilmington, for building at Winter Park; brick veneer; Gothic style; slate roof; wood floors; hot-air heat; cost \$5000; contract let about Jan. 1.

S. C., Florence.—Catholic Church will erect building; English-Gothic style. Address The Pastor.

S. C., Rock Hill.—First Baptist Church will erect building; 3 stories; cost \$40,000. Address The Pastor.

Tenn., Columbia.—First Presbyterian Church, E. E. McLemore, Chmn. Bldg. Comm., will expend \$35,000 to \$40,000 to replace burned structure; brick; Archt. not selected. (Lately noted.)

Tenn., Nashville.—Adams Presbyterian Church, Rev. T. H. Harrison, Pastor, will erect building.

Tex., Waco.—Clay Street Baptist Church is having plans prepared for building and will let contract in January; stucco construction; auditorium to seat 1500. Address The Pastor.

Va., Norfolk.—Mt. Olivet Baptist Church will erect frame building at Norfolk and Ludlow Sts.; cost \$3500. Address The Pastor.

Va., Fairfield.—Methodist church, Rev. H. S. Coffey, pastor, will erect building.

Va., Roanoke.—Second Presbyterian Church is having plans prepared by Frye & Chesterman, Roanoke, for Sunday-school building; 63x75 ft.; tapestry brick; slate roof; steam heat; cost about \$10,000; plans ready about Jan. 1.

W. Va., Charles Town.—M. E. Church South has nearly completed building lately reported.

W. Va., Fairmont.—First Presbyterian Church is having plans prepared by Wm. H. Nicklas, 1904 Euclid Ave., Cleveland, O., for building; 1 story; cost about \$75,000; plans ready about Jan. 1; J. W. Barnes, Chmn. Bldg. Comm. (Previously noted.)

W. Va., Warwood.—Lutheran church will erect building in spring. Address The Pastor.

W. Va., Welch.—Christian Church has plans by A. F. Wysong, Princeton, W. Va., for building; 46x74 ft.; cost \$12,000; construction begins at once. (Lately noted.)

CITY AND COUNTY

D. C., Washington—Market.—District Commrs. have plans by Snowden Ashford, District Atty., for fish market and storage building at 11th and Water Sts. S. W.; 500x40x30 ft.; fireproof; slate and slag roof; reinforced concrete floor; steam heat; electric light; cost about \$125,000.

Ga., Blackshear—Jail.—Pierce county will erect jail to replace present structure; capacity about 70; 6-room jailer's apartment; brick; steam heat; cost about \$20,000; Archt. not selected; J. A. Strickland, B. D. Brantley and J. W. Gray, Com.

Ga., Blackshear—Jail.—Pierce county will erect jail to replace present structure; capacity about 70; 6-room jailer's apartment; brick; steam heat; cost about \$20,000; Archt. not selected; J. A. Strickland, B. D. Brantley and J. W. Gray, Com.

Ga., Blackshear—Jail.—Pierce county will erect jail to replace present structure; capacity about 70; 6-room jailer's apartment; brick; steam heat; cost about \$20,000; Archt. not selected; J. A. Strickland, B. D. Brantley and J. W. Gray, Com.

Ga., Savannah.—W. W. Metzger will erect 1-story frame residence.

Ga., Savannah.—Fred Bryan will erect residence.

Ga., Savannah.—W. W. Metzger will erect 1-story frame residence.

Ga., Savannah.—Savannah Realty Invest.

Ga., Savannah.—R. M. Rivers will erect residence.

Ky., Blackshear—Jail.—Pierce county will rebuild dwelling; 8 or 10 rooms; concrete; fireproof roof; hardwood floors; steam heat; city lighting; cost \$4000; bids opened early in 1916. (Lately noted damaged by fire.)

Ky., Louisville.—Harry Jones will erect 2 frame dwellings; cost \$5000.

Ky., Louisville.—Consolidated Realty Co. will erect brick dwelling at 719 W. Chestnut St.; cost \$5000.

courtroom, lockup, etc.; cost \$10,000. Address Town Clerk.

Tex., Lamesa—Jail.—Dawson County Commissioners, Go. W. Foster, Judge, receives bids until Jan. 10 to erect courthouse and jail building; jail cells, etc.; plans and specifications at office of Sanguinet & Staats, Archts., Fort Worth.

Tex., Galveston—Fire and Police Station.—City has plans by C. D. Hill & Co., 317 22d St., Galveston, to remodel old city hall for fire and police station, and opens bid Dec. 30; will change front, remove tower, etc.; cost \$10,000. (Lately noted.)

COURTHOUSES

Tex., Lamesa—Dawson County Commrs. receive bids until Jan. 10 to erect courthouse and jail. (See City and County.)

Tex., Wichita Falls.—Wichita county votes Jan. 18 on \$225,000 bonds to erect courthouse. Address County Commrs. (Lately noted to have voted this issue, but same disapproved by Atty.-Gen.)

DWELLINGS

Ala., Andalusia.—Dr. J. C. Pennington will erect residence.

Ala., Seminole.—J. B. Wiggins, Chicago, and others will erect cottages, etc. (See Miscellaneous Structures.)

Ark., Little Rock.—E. J. Thornton will erect bungalow. (See Stores.)

D. C., Washington.—Harry K. Boss has plans by A. H. Sonnenmann, 1334 H St. N. W., Washington, for two 2-story brick dwellings at 1784-86 Lanier Pl. N. W.; cost \$12,000; construction by owner.

D. C., Washington.—J. A. Connor & Co., 734 15th St. N. W., will erect six 1-story and two 2-story frame dwellings on Irving St. N. E.; cost \$15,000; Clinton M. Moore, Archt., 3503 Wisconsin Ave. N. W., Washington; construction by owners.

D. C., Washington.—Harry Wardman, 1430 K St., will erect 4 dwellings. (See Apartment-houses.)

D. C., Washington.—John L. Knopp, 1929 Jackson St. N. E., will erect residence at 330 20th St. N. E.; 28x42 ft.; frame; slate roof; pine floors; cost \$3500; hot-water heat, \$300; plans and construction by owner. (Lately noted.)

Fla., Jacksonville.—R. B. Parramore will erect 4 two-story frame dwellings on Beaver St. and North St.; cost \$8000.

Fla., Tampa.—W. P. Bethel purchased site, 330x120 ft., near Indian Home on Bayshore Blvd.; will divide into 40 lots and erect residences.

Fla., St. Augustine.—E. Moeller will erect dwelling.

Fla., St. Petersburg.—Mrs. Hattie Loft will erect California type bungalow.

Fla., St. Petersburg.—F. E. McArthur will erect bungalow; California type.

Fla., West Palm Beach.—Jos. Costillini will erect \$3500 residence.

Ga., Atlanta.—J. H. Whisenant will erect 1-story frame dwelling at 126 McLendon St.; shingle or composition roof; oak and pine floor; probably furnace heat; cost \$3000; day labor.

Ga., Atlanta.—M. L. Rauchenberg plans to erect 5 residences in Walton Park, West End; cost \$15,000.

Ga., Atlanta.—J. G. Dodson will erect residence in Druid Hills; cost \$20,000; W. T. Downing, Archt., Atlanta.

Ga., Atlanta.—Clark Howell, editor of The Constitution, will remodel, erect addition and additional story to residence; cost \$30,000 to \$35,000.

Ga., Savannah.—Walter E. Stevens will erect 2 one-story frame residences.

Ga., Savannah.—F. F. Small will erect 2-story frame residence.

Ga., Savannah.—Fred Bryan will erect residence.

Ga., Savannah.—W. W. Metzger will erect 1-story frame residence.

Ga., Savannah.—Savannah Realty Invest.

Ga., Savannah.—R. M. Rivers will erect residence.

Ky., Hickman.—Dr. H. E. Prather will rebuild dwelling; 8 or 10 rooms; concrete; fireproof roof; hardwood floors; steam heat; city lighting; cost \$4000; bids opened early in 1916. (Lately noted damaged by fire.)

Ky., Louisville.—Harry Jones will erect 2 frame dwellings; cost \$5000.

Ky., Louisville.—Consolidated Realty Co. will erect brick dwelling at 719 W. Chestnut St.; cost \$5000.

Ky., Louisville.—Chas. J. Meriwether will erect brick veneer dwelling at 1929 Ivanhoe Court; cost \$3500.

La., New Orleans.—A. J. Minor will erect 15 dwellings in Louisiana Ave., Parkway Addition.

La., Morganza.—H. M. Field will erect residence; R. S. Soule, Archt., New Orleans.

La., New Orleans.—Mrs. Wm. J. Kane will erect residence; frame, brick veneer and terra-cotta; mahogany and walnut millwork; glazed tile roofing; oak flooring; ceramic tiling; iron grilles; gas and electric fixtures; indirect heating system; cost \$25,000; H. Jordan Mackenzie, Archt., New Orleans.

La., New Orleans.—Mrs. John Macheca will erect residence; 1 story and basement; tile roof; tapestry brick; tile porches; hot-water heat; Toledano, Wogan & Bernard, Archts., New Orleans.

Md., Baltimore.—Martin Horn, 2208 Harford Ave., will erect residence and garage; cost \$7000.

Md., Baltimore.—Welsh Construction Co., 11-13 E. Fayette St., will erect 15 two-story brick dwellings on Collins Ave., north of Massachusetts Ave.; 14x15 ft.; cost \$18,000; Stanislaus Russell, Archt., 2000 Clifton Ave., Baltimore. (Previously noted to erect 30 dwelling on Collins Ave.)

Md., Roland Park.—C. A. Hibler, Harrisburg, Pa., received bids Dec. 14, through Edw. L. Palmer, Archt., 408 Roland Ave., Roland Park, to erect 2 dwellings on Deepdene Rd.; 2 stories; 32x32 ft.; frame; shingle exterior walls and roof; hardwood and pine floor; hot-water heat; gas and electric light; cost about \$5000 each.

Md., Round Bay.—Pennell C. Painter, 605 St. Paul St., Baltimore, will erect bungalow at Round-Bay-on-the-Severn.

Mo., Kansas City.—Swofford Building Co. will erect 2-story stucco and 2-story frame dwellings at 3407-3421 Coleman Rd.; cost \$10,300.

Mo., St. Louis.—O. Gotsch will erect 4 five-room cottages and 4 single four and five-room flats; total investment \$50,000.

Mo., St. Louis.—Mrs. C. Walter Hughes will erect residence on Montclair Ave.; brick with stucco effect; Spanish roll tile roof; broad terrace across entire front laid in tile; Sam C. Black, Archt., St. Louis.

Mo., St. Louis.—Davis Realty Development Co. will erect 3 dwellings.

Mo., University Sta., St. Louis.—M. B. O'Leary Real Estate & Investment Co. has plans by Wm. P. McMahon, St. Louis, for group of dwellings in University City.

Okla., Oklahoma City.—Nichols & Chandler will erect three 1-story and one 2-story frame residences; cost \$10,000.

S. C., Charleston.—Mrs. Annie L. Simons, Sr., will erect dwelling at 85 Gibbes St.; cost \$4500.

S. C., Greenville.—James H. Morgan will erect residence at James and Rutherford Sts.

Tenn., Dandridge.—J. E. Goddard will erect 2-story brick residence.

Tenn., Lebanon.—H. T. Burnett will erect bungalow; bids closed Jan. 1; Geo. D. Walker, Archt., Nashville.

Tex., Denton.—M. L. Portwood reported to erect dwelling at 158 Bolivar St.

Tex., Galveston.—Richard Wilkens will erect 2 residences at 15th St. and Broadway; A. J. Korn, Archt., Houston.

Tex., Houston.—C. J. Miller will erect dwelling on Austin St.; cost \$3200.

Tex., Houston.—Russell Brown Co. will erect 3 dwellings on Lovett Blvd., Avondale Ave. and Stratford Ave.; cost \$13,000.

Tex., Kyle.—N. C. Schlemmer, Austin, Tex., will erect residence and garage; 2 stories; 10 rooms; 40x45 ft.; stucco on frame; brick face; reinforcing steel; patent shingles; pine flooring; electric fixtures; pressure water tank; gasoline electric generator, switchboard, storage batteries, etc.; Giesecke & Geren, Archts., Littlefield Bldg., Austin, Tex.

Tex., Paris.—C. G. Curtis, 18½ Lamar Ave., Paris, is preparing plans for 2 brick dwellings.

Tex., San Antonio.—H. C. Thorman will erect 2 dwellings on University St. and Cincinnati Ave.; cost \$7000.

Tex., San Antonio.—J. A. Bessler will erect two 5-room dwellings on Denver Blvd.; cost \$3000.

Va., Norfolk.—I. C. Davies will erect 2-family residence at Llewellyn Ave. and 27th St.; cost \$3500.

Va., Norfolk.—Louis R. Moss, Norfolk, pre-

pared plans for residence to cost \$11,400; owner's name withheld.

Va., Richmond.—B. W. Wilson will erect 2-story frame stucco dwelling on Brook Rd.; cost \$6000.

Va., Richmond.—Washington Terrace Corporation will erect 10 2-story frame dwellings; cost \$15,000.

Va., Richmond.—R. E. Nelson will erect brick dwelling on Duval St.; cost \$3500.

W. Va., Parkersburg.—C. P. Echols will erect bungalow on 27th St.

GOVERNMENT AND STATE

Fla., St. Augustine—Arsenal.—Government will rebuild State Arsenal noted damaged by fire at loss of \$15,000 to \$20,000; Adj't. Gen. J. C. R. Foster may be able to furnish information.

N. C., Shelby—Postoffice.—Treasury Dept. Jas. A. Wetmore, Acting Supervising Architect, Washington, D. C., opens bids Jan. 26 to erect (including mechanical equipment and approaches) postoffice; drawings and specifications at office of custodian at site or Mr. Wetmore as above.

Tex., Fort Sam Houston — Chapel.—Constructing Quartermaster receives bids until Jan. 14 to complete interior of stone chapel; cost \$5000.

HOSPITALS, SANATORIUMS, ETC.

Ark., Texarkana.—Michael Meagher Char- ity Hospital estate has plans by Stewart Moore, Texarkana, Tex., for addition to building for hospital; mill construction; tin roof; wood floors; steam heat; cost \$20,000; bids opened Jan. 5. Address Archt. (Lately noted.)

Fla., St. Petersburg.—Dr. J. W. Baughman, Savannah, Ga., and J. K. Baughman, Leipzig, O., plan to establish sanitarium; consider erecting about 40 three to six-room cottage with central dining room; T. M. Bryan, Archt., Lakeland, Fla.

Ga., Athens.—Georgia Normal School, J. M. Pounds, Prest., will erect infirmary, for which Legislature appropriated \$4500.

Miss., Gulfport.—King's Daughters are having plans prepared by Nolan & Torre, New Orleans, for hospital building; 2 stories and basement; brick and reinforced concrete; fireproof floor; composition roof; electric light and elevators; cost about \$40,000; hot-water heat, \$3000. (Lately noted.)

Mo., St. Louis—Clubhouse.—Y. M. H. A. is having plans prepared by J. M. Hirshstein, St. Louis, for clubhouse; 3 stories. (Previously noted.)

N. C., Winston-Salem—Home.—Children's Home will erect industrial building; cost \$10,000; Walter Thompson, Supt.

S. C., Greenville—Exposition.—Southern Textile Assn. will erect permanent building; cost \$50,000; J. E. Sirrine, Archt., Greenville.

Okla., Oklahoma City.—Sisters of St. Francis contemplate erecting 4-story addition to St. Anthony's Hospital and establish and equip medical research laboratory on first floor; tentative plans provide addition 105 ft. long; fireproof; reinforced concrete; connected to present building by corridor; cost \$100,000; contract awarded about Feb. 1.

Okla., Tulsa.—Oklahoma Hospital Incptd. by Fred S. Clinton, H. C. Ziegler and H. J. Bricker; will probably begin construction of hospital in January; 41x31 ft.; 4 stories; steel, concrete and brick; fireproof; capacity for 40 beds; cost \$65,000 to \$75,000.

S. C., Columbia.—State Hospital for Insane, Dr. C. F. Williams, Supt., will in 1916 complete wards, extend dining room, remodel for wards and complete central heating plant.

Tenn., Chattanooga.—City and Hamilton county are having plans prepared by Candler & Campbell, Chattanooga, for pellagra hospital; 1 story; 40x50 ft.; frame; composition roof; warm-air heat; cost about \$4500. (Lately noted.)

Tenn., Chattanooga.—City and Hamilton county will erect temporary isolation hospital at Carpenter and Vermont Sts. at foot of Missionary Ridge; cost \$7000. Address The Mayor and County Comrns.

Tenn., Memphis.—City and Shelby county are considering erecting joint tuberculosis hospital.

Tenn., College Station.—Agricultural and Mechanical College lets contract Dec. 31 to erect hospital and dairy barn. (See Schools.)

Tenn., El Paso.—Salvation Army will erect isolation wards and nurses' rooms; red pressed brick and stone; composition roof; pine flooring; electric fixtures; steam heat; cost \$3000; S. E. Patton, Archt., 509 Caples Bldg., El Paso.

Tenn., Hillboro.—City is considering \$25,000 bond issue for sanitarium. Address The Mayor.

HOTELS

Miss. Pass Christian.—J. M. McGlathery, owner of Magnolia Hotel, will rebuild burned structure.

Miss. Pass Christian.—A. Aschaffenburg,

New Orleans, and others are reported promoting erection of hotel on Beach Terrace.

Okla., Tulsa.—Hotel Tulsa, J. E. Crosbie, owner; W. N. Robinson, Mgr., is reported having plans prepared for annex to building; 10 stories; completion in fall.

S. C., Greenville.—Raven I. McDavid will erect family hotel and apartment building at North and Irvine Sts.; 3 stories.

Tex., Galveston.—Arthur E. Kleineke will erect store and lodging-house. (See Stores.)

Va., Hopewell.—B. C. Moore will erect brick hotel to replace Tarrytown Hotel reported damaged by fire.

W. Va., Fairmont.—C. S. Riggs, Geo. T. Watson and R. T. Cunningham are subcommittee on architecture for hotel to be erected by company with \$350,000 capital stock; site, building and equipment cost about \$350,000. (Lately noted.)

W. Va., Huntington.—Boone County Land Co. will erect hotel; first floor for store rooms; 25 hotel rooms above; 2 stories; brick; cost about \$40,000.

MISCELLANEOUS

Ala., Gadsden—Stables.—T. B. Griffin will erect stable; 2 stories; brick; 100x200 ft.; cost several thousand dollars.

Ala., Seminole—Clubhouse.—J. B. Wiggins, H. C. Maley and E. E. Buchan, all of Chicago, acquired 175-acre site and will erect clubhouse; 80 acres for golf links; also erect cottages; E. K. Fogg in charge of engineering and surveying; J. C. Pollock, Gen. Mgr.

Ky., Winchester—Clubhouse.—R. P. Taylor is promoting Clark County Unity Club to erect clubhouse; cost \$50,000.

Md., Baltimore—Stable.—E. H. Koester is having plans prepared by John Freund, 11 E. Lexington St., Baltimore, for addition to stable at 669x77 Josephine St.; 1 story; 45x85 ft.; additional story 27x85 ft.; brick and steel; slate roof; plans out about Dec. 20.

Mo., St. Louis—Clubhouse.—Y. M. H. A. is having plans prepared by J. M. Hirshstein, St. Louis, for clubhouse; 3 stories. (Previously noted.)

N. C., Winston-Salem—Home.—Children's Home will erect industrial building; cost \$10,000; Walter Thompson, Supt.

S. C., Greenville—Exposition.—Southern Textile Assn. will erect permanent building; cost \$50,000; J. E. Sirrine, Archt., Greenville.

Tenn., Nashville—Clubhouse.—Commercial Club selected A. Ten Eyck Brown, Atlanta, as associate architect with Russell E. Hart, Nashville, for remodeling Vanderbilt Bldg. for clubhouse. (Lately noted.)

Va., Chase City—Clubhouse.—Mecklenburg Medicinal Water Corp. opens bids Jan. 15 to erect hunting and pleasure clubhouse on Main St.; 72x150 ft.; frame; cost \$15,000 to \$20,000; Pritchett & Henderson, Archts., Danville, Va. Address Jas. O. Cobb, Prest., Mecklenburg Medicinal Water Corp. (Lately noted.)

Va., Covington—Home.—Norfolk Juvenile Assn. will erect cottage at Home for Boys at cost of \$5000; Rev. Geo. Floyd Rogers, Prest. of Home.

W. Va., Huntington—Barn.—Huntington Transfer & Storage Co., 1021 4th Ave., will erect barn to cost several thousand dollars. (See Miscellaneous Enterprises.)

RAILWAY STATIONS, SHEDS, ETC.

N. C., Kinston.—Atlantic Coast Line R. R., J. E. Willoughby, Ch. Engr., Wilmington, N. C., and Norfolk Southern R. R., F. L. Nicholson, Ch. Engr., Norfolk, Va., are reported to erect union station.

Okla., Claremore.—St. Louis & San Francisco R. R., V. K. Hendrick, Ch. Engr., St. Louis, Mo., will erect depot; brick and Carthage stone; cost \$4000.

Okla., Newkirk.—Gulf, Colorado & Santa Fe Ry. Co., F. Merritt, Ch. Engr., Galveston, Tex., will erect proposed depot; cost \$30,000.

Tenn., Lebanon.—Nashville, Chattanooga & St. Louis Ry., H. McDonald, Ch. Engr., Nashville, will erect passenger station; 24x100 ft.; stucco; red asbestos shingle roof; covered driveway for carriages; concrete platform and sidewalk; cost \$15,000.

W. Va., Fairmont.—B. & O. R. R. Co., F. L. Stuart, Ch. Engr., Baltimore, is reported to erect passenger and freight stations.

W. Va., Huntington.—Chesapeake & Ohio Ry. Co., F. I. Cabell, Ch. Engr., Richmond, Va., is reported to expend \$100,000, to include \$10,000 transfer station in Ohio River yard, trackage changes; 2 interlocking towers, passenger and freight depots in West Huntington to replace burned structure, etc.

SCHOOLS

Ala., Selma.—Payne University will erect dormitory; brick and concrete; cost \$30,000; H. E. Archer, Principal.

Fla., Mariana.—City will erect school for negroes. Address Chrmn. Board of Public School Trustees.

Fla., Stuart.—City will vote on \$30,000 bonds for schools. Address The Mayor.

Fla., St. Petersburg.—Pinellas County School Board ordered election for Jan. 12 on \$20,000 bonds for school improvements.

Ga., Macon.—Board of Education selected Curran R. Ellis, Archt., Macon, to superintend erection of Vineville School; 16 rooms; manual-training department in basement; heating and ventilating plant; fire escape; cost \$40,000; accommodations for 700 pupils. (Previously noted.)

La., Algiers.—School Board is having plans prepared by E. A. Christy, New Orleans, La., for school; 1 story; frame and stucco; contract probably let in January.

Miss., Laurel.—Myrick School Dist. election on \$3500 bonds to erect school building was declared void; date not set for another election; building to be 74x64 ft.; frame; pine-shingle roof; heaters; Dr. D. R. Hunt, Secy., R. F. D. No. 1, Laurel. (Noted in November.)

Miss., Marion.—Lauderdale county votes Jan. 4 on \$100,000 bonds to purchase site, erect and equip agricultural high school. (Lately noted.)

Mo., Durango.—Durango School Dist. votes Jan. 12 on \$175,000 bonds to erect high school. Address Dist. School Trustees.

Mo., St. Louis.—St. Louis Cathedral Parish, Rev. Francis Gilligan, pastor, receives bids until Jan. 15 through Barnett, Hayes & Barnett, Archts. St. Louis, for parochial school and assembly hall; "T" shape; this portion of structure 140x80 ft.; 2 stories and basement; south wing 90x60 ft.; assembly hall 2 stories; brick and terra-cotta; Tudor style; domestic science equipment, gymnasium, etc.; cost \$75,000 to \$100,000. (Lately noted.)

N. C., Asheville.—City selected W. H. Lord, Asheville, as architect for high school provided for in \$200,000 bond issue. (Lately noted.)

N. C., Durham.—City voted \$75,000 bonds to erect 2 schools and additions to Edgemont and Fuller schools; Geo. W. Watts, Chrmn. School Board.

N. C., Highlands.—Highlands School Dist. votes Jan. 15 on \$6000 bonds to erect school; Elmer Johnson, Clerk of Board.

N. C., Sanford.—Sanford Graded School Dist. votes Jan. 25 on \$20,000 bonds for schools; Ralph Monger, Secy. Board of County Comrns.

Ola., Bartlesville.—City is considering election on \$75,000 bonds to erect junior high school. Address The Mayor.

Tenn., Morristown.—City Council desires plans and specifications for school; brick; cost about \$18,000; bids called about Jan. 12.

Tenn., Clarksville.—School Board has plans by J. W. Gidden, Indianapolis, Ind., for addition to high school; cost \$27,000.

Tenn., Kingston.—Roane county will erect \$15,000 high school at Staley Grove; brick; auditorium, manual training, domestic and gymnasium equipment; construction begins Jan. 5.

Tenn., Nashville.—Board of Education receives bids until Dec. 22 for iron and steel work for Elliott School at Jefferson St. and 6th Ave., Marr & Holman, Archts., 701 Stahlman Bldg., Nashville, and Colored High School, 16th Ave. and Grant St., Chas. Ferguson, Archt., 63 Arcade, Nashville; plans and specifications at offices of respective architects; Verner Tolmie, Chrmn. Bd. Com. (Lately noted to open bids for erection of building proper Dec. 10. See Machinery Wanted—Iron and Steel.)

Tenn., Avondale.—Trustees receive bids until Dec. 24 at office of County Supt., Courthouse, to erect brick school at Avondale or School Dist. No. 9.

Tenn., Brownsville.—Brownsville Independent School Dist. voted \$100,000 bonds for schools. Address Dist. School Trustees. (Lately noted.)

Tenn., College Station.—Agricultural and Mechanical College lets contract Dec. 31 to erect fireproof dairy barn and hospital; plans and specifications at following places: College Station, department of architecture; Dallas, Builders' Exchange, Scollard Bldg.; Fort Worth, Acme Pressed Brick Co., First National Bank; Galveston, Builders' Exchange, 303 23d St.; Houston, Chamber of Commerce; San Antonio, L. J. Hart, Gunter

will erect cost \$30,000; school for all of Public on \$33,000 Mayor. Dallas County for Jan. II movements. Selected to superintend; 16 rooms; basement; fire escapes; 700 pupils.

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lotel; Waco, Builders' Exchange, 608½ Aus-
tin Ave.; plans by R. Adelsperger, College
Arch., call for hospital building, 117x82 ft.,
cost about \$40,000; dairy barn, 215x35 ft., cost
about \$10,000. Address Department of Archi-
tecture, College Station, for further infor-
mation. (Lately noted to receive bids until
Dec. 22.)

Tex., Houston.—City opens bids Jan. 3 to
erect Hollywood Colored School on Clark
St.; 3 stories; brick; fire escapes; 39x81 ft.;
ordinary construction; felt and gravel roof;
jolt floor construction; city lights; cost
\$10,000; A. DeLisle, Archt., Houston. Ad-
dress City Secy.

Tex., Houston.—School Board will erect
Eastwood school on cottage plan; adminis-
tration building, 6 units, and gymnasium;
administration building erected first, units
to follow; hollow tile stuccoed; tar, gravel
and tile roof; concrete floors; no lighting;
cost \$15,000; gravity steam heat, \$1000; util-
ity cost \$70,000; M. J. Sullivan, City Archt.,
Houston. (Previously noted.)

Tex., Port Arthur.—Board of Education is
having plans prepared by Wm. B. Ittner,
St. Louis, for 3 schools. Port Arthur Ind.
School Dist. lately noted to vote Jan. 8 on
\$10,000 bonds for schools.)

Tex., Marshall.—City votes Jan. 18 on
\$10,000 bonds to erect school. Address The
Mayor.

Tex., Savoy.—Savoy Ind. School Dist.
plans to issue tax for schools. Address Dist.
School Trustees.

Va., Atlee.—School Trustees of Henry
Hanover county, receive bids until
Jan. 15 to erect 2-story frame school; plans
and specifications at office of Chas. M. Rob-
inson, Inc., Archt., 508-12 Times-Dispatch
Bldg., Richmond, Va.

W. Va., Huntington.—Marshall College, C.
I. Woolley, Prest., will erect physical-educa-
tion building.

STORES

Ark., Little Rock.—E. J. Thornton will
erect store and brick-veneer bungalow at 115
Prospect Ave.; cost \$8000.

Fla., Fort Lauderdale.—C. P. Welding will
erect building on Wall St.; 2 stories; rein-
forced concrete; lower floor, stores; upper
floor, offices.

Ga., Atlanta.—Harry Morris, Chicago, will
erect building at 101 S. Pryor St., to be occu-
pied by Ridley-Williamson-Wyatt Wholesale
Dry Goods Co.; 4 stories; brick; cost \$27,-
50; A. F. N. Everett, Archt., Atlanta; day
labor. (Lately noted.)

Ga., Augusta.—G. Lloyd Preacher (repre-
sentative) acquired site 109x117 ft. at Telfair
St. and Barrett Plaza, and will erect build-
ing.

Ga., Coolidge.—Washington Murphy is re-
ported to erect 2 or 3-story brick building.

Md., Baltimore.—P. W. Hemsley has plans
by John R. Forsythe, 232 St. Paul St., Balti-
more, for building on Harford Rd. near
Parkway; 3 stories; cost about \$10,000; bids
taken. (Lately noted.)

Md., Baltimore.—J. Leopold & Co., 306 W.
Baltimore St., is having plans prepared by
Louis Levi, Munsey Bldg., Baltimore, and
Real Estate Trust Bldg., Philadelphia, to
improve building at 306 W. Baltimore St.;
remodel interior, install store front, etc.; to
be occupied in part by Bean Hat Co. and
Pereth Cohen, manufacturer of ladies'
waists.

Md., Catonsville.—John Hubner, Union
Trust Bldg., Baltimore, is reported to erect
store building on Frederick Rd.

Mo., Kansas City.—John Fennelly, 608
Board of Trade Bldg., will improve building at
1509 Walnut St.; sprinkling and heating
systems; elevator, etc.

Okla., Beaver.—A. F. and A. M. will erect
business and lodge building; 50x140 ft.

Okla., Hollis.—Davis & Lee will erect brick
business building.

Okla., Hollis.—S. L. Beavers will erect
brick business building.

Okla., Ringling.—J. W. Gardner, Mena,
Ark., will erect several business blocks.

S. C., Spartanburg.—John D. Collins will
erect store building to replace structure
damaged by fire at loss of \$40,000.

Tenn., Rockwood.—R. H. Thompson will
improve store building; remodel front, in-
stall plate glass, extend structure about 24
ft., etc.

Tex., El Paso.—Kraukauer, Zork & Moye's
Successors, Inc., will erect lately-noted ad-
dition to present buildings for hardware
and machinery supply house; about 90x120
ft.; 3 stories and basement; reinforced con-
crete; sprinkler system; cement roof and
floors; connected with present heating and

lighting systems; vault lights and eleva-
tors; cost \$50,000; Trost & Trost, Archts.,
El Paso. (See Machinery Wanted—Sprinkler
Equipment; Conveyor; Store Equipment.)

Tex., Galveston.—Arthur E. Kleinecke will
erect building at 25th and Postoffice Sts.;
brick; 60x80 ft.; pressed-brick front; lower
floor for 3 stores; upper floor lodging-house;
Donald N. McKenzie, Archt., Galveston.

Tex., Galveston.—Robt. I. Cohen and F. J.
Becker are reported to erect business build-
ing on Postoffice St.; brick; 2 to 4 stories;
details not determined.

Tex., Galveston.—H. L. Nelson Furniture
Co., has plans prepared by Walter S. Mur-
dock, Galveston, for building at Church and
22d Sts.; 2 stories; brick; 42x120 ft.; cost
\$10,000; lower floor for stores; upper floor
divided into 18 rooms with baths.

Tex., McAllen.—Frank G. Crow will erect
business building; 2 stories; brick; M. L.
Waller, Archt., Fort Worth and Pharr, Tex.

Tex., San Antonio.—H. Burke will erect
store building on Grayson St.; cost \$300.

Va., Hopewell.—A. B. Young and George
W. Hefflin will erect steel building to re-
place burned structure; 22x100 ft.

Va., Hopewell.—B. G. Brown will erect
block of store buildings at Broadway and
Hopewell St.

Va., Hopewell.—Alfred B. Abrams of
Abrams Paint & Glass Co., Richmond, will
erect business building on G St. near Broad-
way way.

Va., Hopewell.—D. C. Guernator will
erect corrugated-iron business building; 2
stories.

Va., Hopewell.—S. and L. Straus will erect
brick business building.

Va., Hopewell.—Weaver, Brown & George
will erect store building; 50x110 ft.; con-
crete-block construction; 5 storerooms; upper
floor for offices.

Va., Hopewell.—T. G. Moore of Moore
Combination Stores will erect store build-
ing to replace burned structure.

Va., Hopewell.—M. R. Scott & Bro. will
erect corrugated-iron building for meat mar-
ket.

Va., Hopewell.—R. A. Harmon and H. T.
Barnham will erect business building;
brick; 3 stories.

Va., Hopewell.—John Kelley, Prest., will
erect warehouse at Houston St. and
Southern Pacific tracks; cost \$6000.

BUILDING CONTRACTS AWARDED

APARTMENT-HOUSES

Fla., Jacksonville.—Julian Prewitte let
contract to H. F. McAden, Jacksonville, to
erect apartment-house at Riverside Ave.
and May St.; 2 and 3 stories; 14 suites;
steam heat; telephone equipment; brick
front; terra-cotta trim; ornamental-iron
balconies; cost \$47,500; R. A. Benjamin, Archt.,
Jacksonville. (Noted in November.)

Mo., Joplin.—W. J. J. Leffen let contract
to erect store and apartment-house. (See
stores.)

Mo., St. Louis.—F. L. Dittmeyer let con-
tract to J. Hartman, St. Louis, to erect 2
two-story tenement-houses at 4300-04 Oregon
St.; cost \$8000.

Tex., San Antonio.—Edw. Gillen, Racine,
Wis., let contract to Walsh & Burney, San
Antonio, to erect apartment-house; 2 stories;
20 rooms; brick and hollow tile; asbestos
shingle roof; wood floors; hot-water
heat; cost \$20,000; Leo M. J. Dielmann,
Archt., San Antonio. (Lately noted.)

Okla., Tulsa.—A. F. and A. M. will erect
business and lodge building; 50x140 ft.

Okla., Hollis.—Davis & Lee will erect brick
business building.

Okla., Hollis.—S. L. Beavers will erect
brick business building.

Okla., Ringling.—J. W. Gardner, Mena,
Ark., will erect several business blocks.

S. C., Spartanburg.—John D. Collins will
erect store building to replace structure
damaged by fire at loss of \$40,000.

Tenn., Rockwood.—R. H. Thompson will
improve store building; remodel front, in-
stall plate glass, extend structure about 24
ft., etc.

Tex., El Paso.—Kraukauer, Zork & Moye's
Successors, Inc., will erect lately-noted ad-
dition to present buildings for hardware
and machinery supply house; about 90x120
ft.; 3 stories and basement; reinforced con-
crete; sprinkler system; cement roof and
floors; connected with present heating and

Va., Norfolk.—John L. Roper will remodel
store building at 115 Brooke St. to be occu-
pied by J. P. Andrews Paper Co. of Wash-
ington; 4 stories; 25-ft. frontage; 10,000 sq.
ft. floor space; completion by Jan. 1.

Va., Norfolk.—F. J. Robinson opens bids
about Dec. 20 to alter and erect addition to
building for stores, offices and lodgerooms;
46x32 ft.; 3 stories; brick; slate roof; ce-
ment and wood floors; pressed-brick front
with glazed terra-cotta trim; Wm. Newton
Diehl, Archt., 47 Chamberlain Bldg., Nor-
folk. (Lately noted.)

Va., Radford.—J. H. Epperly will erect
brick building on Norwood St., East Ward.

W. Va., Beckley.—H. T. Calfee will erect
store and apartment building. (See Apart-
ment-Houses.)

THEATERS

D. C., Washington.—Crandall Theater Co.
will erect motion-picture theater; 1 story;
cost \$50,000; A. P. Clark, Jr., Archt., 816 14th
St. N. W., Washington.

Md., Baltimore.—Broadway Theater Co.
will rebuild theater at 11-13 S. Broadway
noted burned at loss of \$30,000.

N. C., Raleigh.—Howell Cobb, owner of
Raleigh Apartment, will erect moving-pic-
ture theater; capacity 1000.

S. C., Bamberg.—P. B. Murphy is reported
to erect brick theater.

WAREHOUSES

Ala., Birmingham.—Collins & Co. will erect
warehouse at 1st Ave. and 24th St.; 50x
167½ ft.; 4 stories; cost \$40,000 to \$50,000.

Ala., Midland City.—O. W. Kelley, Prest.
First National Bank, and others are reported
to erect warehouse in connection with
establishment of peanut-oil mill.

Ga., Eatonton.—G. K. Riley will probably
rebuild cotton warehouse noted damaged by
fire at loss of \$125,000.

Md., Baltimore.—E. H. Glidden, Archt.,
10th floor Garrett Bldg., Baltimore, receives
bids Dec. 20 to erect warehouse; all details
withheld.

Mo., Kansas City.—J. H. Hulse Storage &
Transfer Co. will erect warehouse; 5 stories;
reinforced concrete; C. M. Williams, Archt.,
Rialto Bldg., Kansas City.

Tex., San Antonio.—Superior Oxygen Co.
of Missouri, St. Louis, Mo., Edw. W. Uri,
V.-P., will erect warehouse at Houston St.
and Southern Pacific tracks; cost \$6000.

D. C., Washington.—Freda Murray let con-
tract to R. C. Hess, 1350 E. Capitol St. N. E.,
Washington, to erect dwelling on 10th St.
S. E.; 19x45 ft.; brick and frame; tin roof;
hot-water heat; gas lighting; cost \$4200;
Oscar G. Vogt, Archt., 405 Corcoran Bldg.,
Washington. (Lately noted.)

D. C., Washington.—Thos. E. Jarrell, 239
Woodward Bldg., let contract to Arthur C.
Shaw, 239 Woodward Bldg., Washington, to
erect dwelling on Ingraham St. N. W.; 30x39
ft.; brick and wood; red tile roof; oak
floors; cost \$12,000; vapor heat, \$800; electric
lighting, \$225; N. R. Grimm, Archt., Bond
Bldg., Washington. Address contractor.
(Lately noted.)

Fla., West Palm Beach.—H. E. Dodge of
Dodge Bros. let contract to C. C. Lightfoot,
West Palm Beach, to erect residence; bungalow
style.

Ga., Savannah.—Dr. Philip W. Dymet let
contract to Savannah Renly Investment
Co., Savannah, to erect residence; 1½ stories;
concrete; cost \$10,000.

Ky., Louisville.—Paul E. Will, 1907 Port-
land Ave., let contract to A. A. Will, 2431
Montgomery St., Louisville, to erect 2 dwell-
ings on Bank St.; 22½x37 ft.; frame; metal
roof; wood floors; total cost \$3400; warm-
air heat, \$80 each. Address Contr. (Lately noted.)

La., New Orleans.—Chas. P. Wilson has
plans by and let contract to Carl E. Peter-
son, 8126 Cohn St., New Orleans, to erect
dwelling; 30x60 ft.; frame and concrete;
slate roof; cost \$32,000. (Union Homestead
Assn. lately noted to erect this building.)

Md., Baltimore.—W. B. Gerwig, 1028 N.
Fulton St., let contract to Jas. Keely, Poplar
Grove and Mosher Sts., Baltimore, to
erect 22 dwellings at 2801-39 Winchester St.;
2 stories; brick; cost \$36,000; plans by
owner.

Md., Baltimore.—Harvey W. North let con-
tract to Wm. L'Allemand, 4007 Cathland
Ave., Baltimore, to erect 2-family building
at Lenox; 2 stories; 30x52 ft.; frame; cost
\$6700; Fredk. E. Beall, Archt., 306 St. Paul
St., Baltimore.

Md., Baltimore.—Miss A. M. Beasley let
contract to C. W. Littleton & Son, 4313 Lib-
erty Heights Ave., Baltimore, to erect dwell-
ing on Springdale Ave. near Denison St.;
2½ stories; 28x35 ft.; frame; slate roof;

Tex., Victoria.—Fire Station.—City let con-
tract to Gruy-Killeforth & Co., San Antonio,
to erect central fire station; 2 stories; 70x59
ft.; brick; fireproof; accommodations for 5
trucks on first floor; cost \$14,189. (Lately
noted.)

COURTHOUSES

Miss., Pontotoc.—Pontotoc county let con-
tract to Dobson & Olive, Granada Hotel, Bir-
mingham, Ala., to erect courthouse; steel,
reinforced concrete and terra-cotta; Spanish
tile roof; concrete floor; cost \$60,000; heating
plant, \$250; lighting, \$2000; Overstreet &
Spencer, Jackson, Miss., and Mahon & Broad-
well, Memphis, Tenn., Archts. (Address contrac-
tors. Other contracts lately noted.)

DWELLINGS

Ala., Bay Minette.—H. H. Page let con-
tract to A. B. Bryars, Bay Minette, to erect
residence.

Ala., Birmingham.—M. E. James let con-
tract to Jos. Ward, Birmingham, to erect 2-
story brick-veneer residence; cost \$4500.

Ala., Birmingham.—Seminole Investment
Co. let contract to W. R. McNeal to erect 1-
story frame dwelling.

Ala., Birmingham.—Dr. E. T. Fields let con-
tract to W. A. McWilliams, Birmingham, to
erect 2-story frame building at 18th St.
and 20th Ave. East; cost \$3500.

Ala., Birmingham.—John Herriman let con-
tract to J. Blomley, Birmingham, to erect 2
frame dwellings; cost \$3000.

Ala., Flat Top.—Sloss-Sheffield Steel &
Iron Co., Birmingham, let contract to G. B.
Edwards Lumber Co., Inc., Bessemer, Ala.,
to erect 69 4-room dwellings at Flat Top.

Ala., Florence.—C. W. Ashcraft let con-
tract to H. B. Austin, Florence, to erect
residence; Spanish colonial; stone veneer;
James G. Gauntt, Archt., Florence.

Ala., Opp.—Mrs. Lena Burgay let contract
to M. W. Woodham to erect 5-room bunga-
low.

D. C., Washington.—S. D. Grove let con-
tract to W. R. Coon, 2414 Irving St. N. E.,
Washington, to erect 2-story brick and
frame dwelling at 1372 Dogwood St.; cost
\$4400; plans by owner.

D. C., Washington.—Freda Murray let con-
tract to R. C. Hess, 1350 E. Capitol St. N. E.,
Washington, to erect dwelling on 10th St.
S. E.; 19x45 ft.; brick and frame; tin roof;
hot-water heat; gas lighting; cost \$4200;
Oscar G. Vogt, Archt., 405 Corcoran Bldg.,
Washington. (Lately noted.)

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Woodward Bldg., let contract to Arthur C.
Shaw, 239 Woodward Bldg., Washington, to
erect dwelling on Ingraham St. N. W.; 30x39
ft.; brick and wood; red tile roof; oak
floors; cost \$12,000; vapor heat, \$800; electric
lighting, \$225; N. R. Grimm, Archt., Bond
Bldg., Washington. Address contractor.
(Lately noted.)

Fla., West Palm Beach.—H. E. Dodge of
Dodge Bros. let contract to C. C. Lightfoot,
West Palm Beach, to erect residence; bungalow
style.

Ga., Savannah.—Dr. Philip W. Dymet let
contract to Savannah Renly Investment
Co., Savannah, to erect residence; 1½ stories;
concrete; cost \$10,000.

Ky., Louisville.—Paul E. Will, 1907 Port-
land Ave., let contract to A. A. Will, 2431
Montgomery St., Louisville, to erect 2 dwell-
ings on Bank St.; 22½x37 ft.; frame; metal
roof; wood floors; total cost \$3400; warm-
air heat, \$80 each. Address Contr. (Lately noted.)

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plans by and let contract to Carl E. Peter-
son, 8126 Cohn St., New Orleans, to erect
dwelling; 30x60 ft.; frame and concrete;
slate roof; cost \$32,000. (Union Homestead
Assn. lately noted to erect this building.)

Md., Baltimore.—W. B. Gerwig, 1028 N.
Fulton St., let contract to Jas. Keely, Poplar
Grove and Mosher Sts., Baltimore, to
erect 22 dwellings at 2801-39 Winchester St.;
2 stories; brick; cost \$36,000; plans by
owner.

Md., Baltimore.—Harvey W. North let con-
tract to Wm. L'Allemand, 4007 Cathland
Ave., Baltimore, to erect 2-family building
at Lenox;

hardwood floor and trim; steam heat; electric light; cost \$6000; John R. Forsythe, Archt., 222 St. Paul St., Baltimore.

Md., Belmar.—Wm. H. Mueller, Harrison M. Diver and Mrs. Rosa Horney each let contract to Overton Realty Co., Belmar, to erect dwelling; 2½ stories; frame; slate roof; No. 1 pine floor; hot-water or vapor heat; electric and gas heat; cost about \$3100 each; plans by contractor, who will erect 4 other similar dwellings.

Md., Round Bay.—Mrs. Julia M. Strange let contract to Jos. D. Groh, Pasadena, Md., to erect lately-noted bungalow; 30x40 ft.; frame; shingle roof; pine flooring; electric lighting; no heating plant; cement walks; cost \$2000. (See Machinery Wanted.—Motor—Pump.)

Mo., University Sta., St. Louis.—Jackson Johnson let contract to Jas. Black Masonry & Construction Co., St. Louis, to erect 4 residences in block bounded by Delmar, Pennsylvania, Washington and Vassar Aves., University City; 2½ stories; colonial and English timber types; tile baths; Wm. P. McMahon, Archt., St. Louis.

S. C., Charleston.—J. F. Townsend let contract to Palmer-Spivey Co., Charleston, to erect 2 dwellings at Rutledge Ave. and S. Bay St.; 2 stories; brick; asbestos-shingle roof; electric light; cost \$9000; hot-water heat \$700; J. D. Newcomer, Archt., Charleston. (Lately noted.)

S. C., Charleston.—R. B. Gilchrist let contract to Palmer-Spivey Construction Co., Charleston, to erect dwelling at Elmwood Ave. and Huger St.; 2 stories; frame; asbestos shingle roof; electric light; cost \$4000; hot-air heat \$300; plans by owner.

S. C., Columbia.—John J. Neil, Jr., Supt. of Congaree Fertilizer Co., let contract to erect residence on Wheat St.; 6 rooms; frame.

Tex., Clarksville.—E. L. Canterbury let contract to Lee Hayes to erect \$3500 residence; brick; slate roof.

Tex., Clarksville.—G. A. Maxfield let contract to Mr. Cook to erect \$3000 residence; C. G. Curtis, Archt., 1½ Lamar Ave., Paris, Tex. (Lately noted.)

Tex., Corsicana.—Geo. Baum let contract to John Gallahar, Corsicana, to erect residence on 2d Ave.; cost \$10,000; McCommon & Lang Lumber Co., Corsicana, has contract for materials.

Tex., Fort Worth.—Dr. A. J. Wimberly let contract to erect 2-story residence.

Tex., Houston.—M. M. Graves let contract to D. A. Crawford, Houston, to erect residence at San Jacinto and Berry Sts.; brick veneer; stone trimmings; terrazzo porch floor; green glazed tile roof; brick garage; cement walks and driveways; cost \$25,000; Finger & Bailey, Archts., Houston.

Tex., New Braunfels.—Sam Frieze let contract to Adolf Moeller, New Braunfels, to erect addition to remodel residence; cost \$3000; construct porch, etc.; contractor will purchase materials, including lumber, sand-lime brick, millwork, artificial stone, structural steel, tin roofing, etc. Giesecke & Geren, Archts., Littlefield Bldg., Austin, Tex.

Va., Norfolk.—Mrs. G. M. Serpell let contract to S. B. Williamson, Norfolk, to erect addition to and alter dwelling; 40x53 ft.; repressed brick; limestone trim; slate roof; hot-water heat reserved; cost \$16,000, exclusive of lighting, piling, push-button elevator, etc., which will be let later; J. W. Lee, Archt., Norfolk. (Lately noted.)

Va., Petersburg.—Bernard C. Syme let contract to W. C. Greenwood, Petersburg, to erect 2 residences in East Petersburg; completion in 30 days.

Va., Roanoke.—J. J. Saker, 201 Park St. N. W., let contract to T. W. Spitzer, 521 2d Ave. N. W., Roanoke, to erect lately-noted dwelling on Luck Ave. S. W.; 37x45 ft.; brick; slate roof; wood floor; cost \$3000; hot-water heat, \$400. (See Machinery Wanted—Electrical Equipment.)

W. Va., Moundsville.—Misses Welch let contract to C. A. Jones, Moundsville, to erect 6-room residence.

GOVERNMENT AND STATE

Mo., Moberly—Postoffice.—Treasury Dept., Jas. A. Wetmore, Acting Supervising Archt., Washington, D. C., let contract at \$31,450 to Original Cabinet Co., Evanston, Ill., to erect extension to and remodel building.

Tex., Brenham—Postoffice.—Treasury Dept., Jas. A. Wetmore, Act. Supvr. Archt., Washington, D. C., let contract at \$4,834 to W. G. Carter Co., Chicago, to erect postoffice; 1 story and basement; stone and brick facing; fireproof, except tin and composition roof; 4400 sq. ft. ground area. (Lately noted.)

Tex., Navasota—Postoffice.—Treasury Dept., Jas. A. Wetmore, Supvr. Archt., Washington, D. C., let contract at \$41,336 to Algernon Blair, Montgomery, Ala., to erect postoffice; 1 story and basement; brick and stone facing; partly fireproof; composition roof; 4312 sq. ft. ground area.

HOSPITALS, SANITARIUMS, ETC.

Tex., Dallas.—H. J. Curtis, 12½ Main St., general contractor to erect St. Paul Sanitarium, let contract at \$7500 for wiring to Webb Electric Co., Dallas; plans by J. Ed Overbeck, Dallas, call for structure 175x30 ft.; brick and concrete; cost \$180,000 without mechanical equipment. (Other contracts lately noted.)

HOTELS

Fla., Sarasota.—T. T. Watrous let contract to J. C. Emerson, Tampa, Fla., to add one story to and remodel Watrous Hotel; 3 stories; 50x100 ft.; brick; composition and asbestos roof; cost \$12,000; electric light \$400; sidewall \$250; freight elevator \$200; C. H. Glenn, Archt., Tampa, Fla. (Lately noted.)

Va., Roanoke.—L. E. Johnson, Prest. of Norfolk & Western R. R., and others let contract to John P. Pettyjohn & Co., Roanoke, to erect addition to Hotel Roanoke; 4 stories; fireproof; will install additional baths and plumbing, enlarge lobby, double size of dining-room, etc.; cost \$100,000; Frye & Chesterman, Archts., Roanoke, Va. (Lately noted.)

MISCELLANEOUS

D. C., Washington—Studio.—Paul W. Bartlett, 1712 3d St. N. E., let contract to E. H. Edmonston & Co. to erect ½-story brick studio at 237 Randolph St. N. E.; cost \$1000.

Fla., Daytona—Pavilion.—C. G. Burgoine has plans by and let contract to Jacob Espedahl, Daytona, to erect pavilion; 40x150 ft.; wood and glass; tin roof; double wood floors; electric lighting; cost \$10,000. (Lately noted.)

SCHOOLS

Fla., La Grange—Board Public Instruction Brevard County let contract to J. E. Easterly, at \$4190 and \$2465, respectively, to erect schools at La Grange and Shiloh; first, concrete walls; ordinary construction; second, frame; both asbestos tile roof; steam heat; electric light; A. E. Lewis, Archt., Miami. (Noted in Nov.)

Fla., Live Oak—Suwannee County Board of Education let contract at \$43,800.45 to Florida Engineering & Construction Co., Jacksonville, to erect high school; reinforced concrete; 160x90 ft.; 2 stories and basement; seating capacity for 600; also let contract at \$6700 to C. C. Hartwell Co., New Orleans, La., for plumbing and heating; Mark & Sheftall, Archts., 210 Clark Bldg., Jacksonville. (Lately noted.)

Fla., Titusville—Board Public Instruction Brevard County let contract to Florida Schub Concrete Construction Co., Jacksonville, Fla., to erect school at Titusville and one at Mims, at \$5897 and \$17,850, respectively; fireproof; steam heat; electric light; A. E. Lewis, Archt., Miami, Fla. (Noted in Nov.)

Ga., Jonesboro.—School Board let contract to J. W. Stout & Co. to erect school building; 9 rooms and auditorium; composition roof; Jas. J. Baldwin, Archt., Anderson, S. C. (Previously noted.)

La., Elton.—School Board let contract to W. A. Prather, Elton, to erect school; brick; asphalt-slate roof; cost \$10,000; J. W. Smith, Archt., Monroe, La. (Noted in November.)

N. C., Macon.—School Board let contract to W. G. Egerton, Macon, to erect school; 2 stories; 61x90 ft.; ordinary construction; slate roof; cost \$10,000; J. M. Kennedy, Archt., 301 Merchants' Bank Bldg., Raleigh, N. C. (Previously noted.)

Tenn., Cleveland—High School Board let contract to Cleveland Construction Co., Cleveland, to erect Bradley County High School; to Chattanooga (Tenn.) Heating Co. for heating; plumbing contract also let; total cost, \$21,181; brick and wood; tar and gravel roof; steam heat; electric lights; Clarence T. Jones, Archt., Hamilton Natl. Bank Bldg., Chattanooga.

Tex., Houston—Board of Education let contracts as follows to erect administration building at Montrose School: General construction, Woodruff & Chambers; heating, Warren Co.; plumbing, J. B. Collins; wiring, Barden Electric & Machinery Co.; all of Houston; cost \$19,000; patio type; total cost \$80,000; Maurice J. Sullivan, City Archt., Houston. (Lately noted.)

W. Va., Wheeling—Board of Education let contract at \$75,019 to J. R. Butts & Sons Co., Wheeling, to erect Madison School; at \$10,500 to Schofield-Cowl Co., Wheeling, for heating and ventilating; at \$4495 to W. H. Hare's Sons, Wheeling, for plumbing; plans by Fred F. Faris, Wheeling, call for gray-brick structure; 196x140 ft. (Previously noted.)

STORES

Ala., Birmingham.—Florence Investment Co. let contract to Smallman Brice Co., Birmingham, to erect store building for Louis Sax Clothing Co., Birmingham; 5 stories; 100x100 ft.; cost \$100,000 to \$150,000; Miller & Martin, Archts., Birmingham. (Previously noted.)

Ala., Birmingham.—W. M. Cosby let contract to Wood & Browning, Birmingham, to erect 1-story brick business building; cost \$6000.

Ark., Newport.—A. N. Walker, Mgr. of Newport Water, Light & Power Co., let contract to Wm. Bengel, Newport, to erect brick business building at Front and Elm Sts.; 3 stories.

Fla., Daytona Beach.—J. H. Donnelly let contract to A. Van de Vord to erect store building; 2 stories; cement block.

Fla., Live Oak—Suwannee County Board erect high school; reinforced concrete; floor slab floor construction; hot-blast steam heat; cost \$50,000; heating and plumbing to C. C. Hartwell Co.; Mark & Sheftall, Archts., 210 Clark Bldg., Jacksonville. (Lately noted.)

Fla., Tampa.—Mrs. Mary L. Moses let contract to Friend & Gattman, Curry Bldg., Tampa, to erect store on Lafayette St.; 29x75 ft.; brick; composition roof; gas heat; electric light; cost \$4300; Fort & Parslow, Archts., Curry Bldg., Tampa. (Lately noted.)

Ga., Augusta.—Wm. Schweigert let contract to C. B. Holley to erect store in 800 block Broad St.; 3 stories; brick and terra-cotta; slate roof; tile floor; steam heat; electric light; cost \$4300; Fort & Parslow, Archts., Augusta. (Lately noted.)

Miss., Corinth.—B. F. Liddon let contract to A. H. Patrick, Corinth, to install plate-glass front and otherwise improve building.

Mo., Joplin.—W. J. Joffen let contract to Dieter & Wenzel Construction Co., Joplin, to erect store and apartment building on Main St. between 9th and 10th Sts.; 50x108 ft.; brick and wood construction; composition roof; first floor for stores, cement; second for apartments, wood; electric conduit installation; cement sidewalk; cost \$13,000; A. C. Michealis, Archt., Joplin. (Lately noted.)

Tex., Houston.—Magnolia Paper Co. let contract to James Stewart & Co., Inc., First National Bank Bldg., Houston, to erect warehouse; 3 stories and basement; 130x16 ft.; reinforced concrete; gravel roof; flat slab construction to carry 300 pounds to sq. ft.; cement floors; no heating; city lights; construction begins Feb. 1; materials arranged for by contractor; sprinkler system; freight elevator; metal windows; cost \$39,900; Finger & Bailey, Archts., Houston. (Lately noted.)

Mo., St. Joseph.—Bartlett Bros. Land & Loan Co. is reported to have let contract to Hoggson Bros., 7 E. 44th St., New York, to erect 5-story building at 8th and Felix Sts.

Tex., Fort Worth.—Household Furniture Co. will erect business building; contract let.

Va., Hopewell.—Hopewell-Richmond Real Estate Corp. let contract to Harrison Construction Co., Hopewell, to erect 2-story brick business building to replace burned structure.

Va., Hopewell.—J. Baskom let contract to J. Beshon, Hopewell, to erect corrugated iron building.

Va., Hopewell.—Newark Shoe Co. let contract to Singery Construction Co., Hopewell, to erect store building; brick.

Va., Richmond.—Miller & Rhoads let contract to W. L. Ragland, Richmond, to erect annex to store; 65 ft. 1 in. by 170 ft. 8½ in.; fireproof; brick, concrete and steel; 65,000 sq. ft. additional space; connect with present structure on all floors; sprinkler system; 30,000 gal. tank on roof; cost \$175,000; Chas. M. Robinson, Inc., Archt., Richmond.

THEATERS

Ky., Louisville.—Second Street Amusement Co. let contract to Lichtenfeld & Metzner Co. to erect theater at 2d and A Sts.; 70x150 ft.; fireproof; composition roof; concrete and the floor; cost \$35,000; heating plant \$2500; Joseph & Joseph, Archts., Republic Bldg., Louisville. (Lately noted.)

Va., Chase City.—C. E. Geoghegan let contract to J. T. & S. J. Reynolds, Chase City, to erect motion-picture theater at 12½ Main St.; 2 stories; 26x90 ft.; brick; metal roof; concrete floor; electric light; concrete walk; cost \$3500. (Lately noted.)

WAREHOUSES

N. C., Charlotte.—Buckeye Cotton Oil Co. let contract to Atlantic Construction Co., Charlotte, to erect storage building; structural steel; cost \$10,000 to \$15,000.

Tex., Houston.—Magnolia Paper Co. let contract to James Stewart & Co., Inc., First National Bank Bldg., Houston, to erect warehouse; 3 stories and basement; 130x16 ft.; reinforced concrete; gravel roof; flat

slab construction to carry 300 pounds to sq. ft.; cement floors; no heating; city lights; construction begins Feb. 1; materials arranged for by contractor; sprinkler system; freight elevator; metal windows; cost \$39,900; Finger & Bailey, Archts., Houston. (Lately noted.)

MACHINERY, PROPOSALS AND SUPPLIES WANTED

Manufacturers and others in need of machinery or supplies of any kind are requested to consult our advertising columns, and if they cannot find just what they wish, if they will send us particulars as to the kind of machinery or supplies needed we will make their wants known free of cost, and in this way secure the attention of manufacturers and dealers throughout the country. The Manufacturers Record has received during the week the following particulars as to machinery and supplies wanted.

"WANTS"

Acid (Stearic).—Iridium Dye Co., 228 W. 11th St., Kansas City, Mo.—Addresses of manufacturers of stearic acid.

Air Compressor.—W. J. Alford, 3532 N. 27th St., Birmingham, Ala.—Air compressor, about 175 ft. free air. (See Machine Tools.)

Air Compressors.—See Engines (Gas) and Compressors.—E. C. D'Yarmett.

Alcohol (Denatured and Wood) Equipment.—E. M. Rumph, Gen. Mgr., Rumph Nursery Co., Blountstown, Fla.—Addresses of manufacturers of equipment for making denatured alcohol and wood alcohol from vegetables and farm waste; also wants data on manufacture, and correspondence with chemists for experimental work.

Asphalt and Equipment.—Hernando County Commrs., Brooksville, Fla.—Bids Jan. 3 on 60 or more tons refined asphalt with equipment; specifications obtainable from H. S. Jaudon Engineering Co., Savannah, Ga.

Automobiles, Bicycles, etc.—J. Carreira Junior, Recife, Pernambuco, Brazil.—Prices on bicycles, automobiles and equipment for same. (See Merchandise (General).)

Baling Presses.—Grove Park Inn, Finance Dept., Asheville, N. C.—To correspond

with manufacturers of small steel or wooden balers for paper.

Baling Press.—Dunlop Milling Co., Clarksville, Tenn.—Small baling for waste paper.

Boilers.—See Electrical Machinery, etc.—City Point Ice Corp.

Boilers.—The Cypress Lumber Co., Apalachee, Fla.—Boilers, settings, heaters, feed pumps and other accessories.

Boilers (Water-Tube).—G. A. J. Maihar, Room 602, Drake Bldg., Easton, Pa.—500 to 600 H. P. or two 250 H. P. each water-tube boilers, 150 (or more) lbs. steam; second-hand.

Boilers.—Martin J. Lide, Consult. Engr., Birmingham, Ala.—Two 150 to 200 H. P. boilers; prefers 150 lbs. pressure; water-tube return tubular or Scotch marine.

Box Machinery.—Woodstock Hardwood & Spool Mfg. Co., Key Box 615, Charleston, S. C.—Machinery with direct motor drive, to manufacture wooden boxes.

Bottling Machinery.—City Point Ice Corp., Alexandria, Va.—Machinery for bottling carbonated waters; good second-hand considered.

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Bricks.—City Point Ice Corp., Alexandria, Va.—Bricks in carload lots; delivery at Hopewell, Va. (See Electrical Machinery, etc.)

Canning Machinery.—J. R. Keller, Jacksonville, Tex.—Data on machinery for canning tomatoes, peaches, etc.

Cement.—Dept. of Justice, Office Supt. of Prisons, Washington, D. C.—Bids until Jan. 17 to furnish and deliver at U. S. Penitentiary, Atlanta, Ga., 8000 barrels Portland cement; copies of specifications upon application.

Chemical Products, Colors, Oils, etc.—T. Campi and Cusso, Pino 12, Barcelona, Spain.—Interested in following, with view to representation: Paste for paper industry; chemical and pharmaceutical products; colors, all kinds, especially of aniline; dyeing extracts; printing inks; oils of aniline; potato flour starch; prepared colors; texture of cotton; asbestos; oilcloth wax-colored and linoleums; toys; fancy buttons; paints; varnish.

Clock Installations.—See Electric Lights, etc.—Dept. of Justice.

Coal.—Bear Hill Mining Co., T. H. Braley, Mgr., Dodd City, Ark.—Prices on coal (steam) delivered Yellville, Ark.

Conveyor.—See Store Equipment.—Kraemer, Zork & Moye's Successors, Inc.

Crane (Locomotive).—G. A. J. Mallar, Room 602, Drake Bldg., Easton, Pa.—15-ton wheel locomotive crane; second-hand.

Creamery Equipment.—W. C. Newnam, Farmville, Va.—Information on creamery equipment.

Condenser.—See Electrical Machinery, etc.—City Point Ice Corp.

Cotton Yarns.—See Cutlery, etc.—Simao Salem.

Crushers.—See Mining Equipment.—J. H. Dowling.

Culvert.—Duval County Comr., Frank Brown, Clerk, Jacksonville, Fla.—Bids until Dec. 31 to furnish 4400 lin. ft. corrugated iron culvert ranging in size from 12 to 48 in.; specifications from Clerk's office, Room 2, Courthouse.

Cutlery, etc.—Simao Salem, manufacturer agent and commission merchant, S. Paulo, Brazil.—Interested in following, with view to representation: Cotton stockings, scissors, razors, knives, all kinds of cutlery, cotton yarns, hair pins, cheap jewelry, iron pipes, galvanized pipes, various machines and toys, lumber and wheat.

Dams and Spillways.—Board of Control, T. S. Purdie, Chmn., Norfolk, Va.—Bids until Jan. 8 to rebuild 3 dams and spillways; plans, specifications, etc., obtainable from T. B. Dornin, Engr., Water Dept.

Drill (Hand-power).—C. P. Brown, Dougherty, Ga.—Hand-power drill; second-hand; Jackson, Redfield or other make.

Drykiln Equipment.—Shand Builders' Supply Co., 615 Hampton St., Columbia, S. C.—Carload 16 to 20-lb. steel rails; 1-in. steam pipe and fittings for drykiln; roller bearing kiln trucks; new or second-hand.

Electric Lights, etc.—Dept. of Justice, Office Supt. Prisons, Washington, D. C.—Bids until Jan. 4 to furnish and deliver at U. S. Penitentiary, Atlanta, Ga., material for electric light, telephone and clock installations for west main cell wing; copies of specifications, with further information, upon application.

Electric Plants.—See Ice and Electric Plants—Moulton Water-works.

Electric-light Equipment.—Bear Hill Mining Co., T. H. Braley, Mgr., Dodd City, Ark.—Prices on electric-light equipment.

Electric-light Plant.—Claude G. Arnold, Portland, Tex.—Prices on new or second-hand equipment; about 1000-light capacity.

Electric Motors.—Woodstock Hardwood & Spool Mfg. Co., Key Box 615, Charleston, S. C.—Direct motor-drive equipment for wooden-box machinery. See Box Machinery.

Electric Plant Equipment.—Southern Electric Service Co., Sumner, Miss.—Prices on 15 mil. No. 10 B. W. G. copper-clad steel line wire; 3 mil. No. 10 B. W. G. copper-clad steel weatherproof wire; 250 2-pin cross-arms; 350 poles; transformers, etc. Address A. S. Carl, Mgr., Winona, Miss.

Electrical Equipment.—J. J. Saker, 31 Park St., N. W., Roanoke, Va.—Prices on electrical equipment for \$3000 dwelling.

Electrical Machinery.—Martin J. Lide, Consult. Engr., Birmingham, Ala.—Two direct-connected 250 to 275-volt D. C. units; preferably 75 K. W. each.

Electrical Machinery.—Darlington Brick & Tile Co., Darlington, S. C.—Bids on following new or second-hand (good condition) electric machinery and equipment: 75 K. V. A. electric generator, 60-cycle, 3-phase, A. T. B., 900 R. P. M., 2300 volts, A. C.; 3 K. W., 2300 R. P. M., 125-volt, C. V. C., flat compound wound D. C. generator; panel board, natural black slate 48x20x1½-in. mounted 76-in. pipe support, equipped with ammeters, switches receptacle, rheostat mechanism, current transformers, potential transformer synchroscope lamp receptacle volt meter potential synchronizing plugs; 50 H. P., 900 R. P. M., 2300-volt, 60-cycle, 3-phase, form M motor with T 20 controller; 2 type F, form K 20 TPST 250-volt 60 amp. automatic oil switches; 10 H. P., 1200 R. P. M., 550-volt, 60-cycle, 3-phase form K motor with A-3 compensator; 2 5 K. V. A. type H oil-cooled transformer, 2300-volt primary, 600-volt secondary; 35 H. P. 1200 R. P. M., 2300-volt, 60-cycle, 3-phase form M motor with T-20 controller; for Society Hill (S. C.) plant.

Electrical Machinery, etc.—City Point Ice Corp., Alexandria, Va.—Generating unit, 25 to 35 K. W. 125 or 250-volt D. C. generator, direct connected to steam engine; 72x18 horizontal return tubular boilers, to carry not less than 110 lbs. steam pressure, consider Heine water-tube type; steam condenser for 50-ton ice plant, Ziegler

cu. yds. excavating, hauling and spreading earth, Annapolis, Md., schedule 9116.

Grinding Machines (Tool).—William Wilson, Ensley, Ala.—Tool-grinding machines for lawn mowers, razors, knives and other edged tools.

Hardware.—See Leather, Shoes, Hardware, etc.—Nicolas G. Zacher.

Heaters, etc.—See Boilers, etc.—The Cypress Lumber Co.

Hoist.—Martin J. Lide, Consult. Engr., Birmingham, Ala.—Single drum mine hoist; diam. drum 72 in.; with friction and brake; first or second motion; rope pul 1 3500 lbs.; rope speed about 700 ft.

Hoisting Machinery.—North American Fluor spar & Lead Corp., Smithland, Ky.—To correspond with manufacturers of hoisting machinery, both steam and oil burners.

Ice and Electric Plants.—Moulton Water-works, H. C. Dunn, Gen. Mgr., Moulton, Ala.—Prices on 2-ton ice plant and electric plant of 250 16-tungsten bulbs capacity.

Insulating Material.—See Roofing Paper, etc.—J. R. Keller.

Ice-cream Equipment.—W. C. Newnam, Farmville, Va.—Information on ice-cream machinery.

Iron Work.—Kirby Planing Mill Co., Thomasville, Ga.—Addresses of manufacturers of iron work for silos.

Iron and Steel.—Board of Education, Nashville, Tenn.—Bids until Dec. 22 on iron

carload lots. (See Electrical Machinery, etc.)

Locomotive, etc.—Huettel Coal & Coke Co., Norton, Va.—6 to 8-ton steam locomotive for inside and outside haulage at our mining plant; 44-in. gauge track, new or good second-hand.

Lumber.—Navy Dept., Bureau Supplies and Accounts, Washington, D. C.—Bids on 15,000 ft. 1½-in. Louisiana red cypress, delivery Norfolk, and 530,000 ft. sawn timber yellow pine, delivery Brooklyn, schedule 9128.

Lumber.—Northern Iron & Steel Co., Suite 1011 Drexel Bldg., Philadelphia, Pa.—Immediate purchase of oak, hemlock, white pine and yellow pine (not turpentine), f. o. b. cars Norfolk, Newport News or Mobile, Ala.; will furnish specifications and requirements.

Machine Tools.—Pennsylvania Equipment Co., 15th St. and S. Penn Sq., Philadelphia, Pa.—Second hand shear, capacity to shear 1½x1½-in. or ¾x6-in. cold soft steel, or to punch 1-in. hole in a ¾-in. plate, floor space 8 ft. 3 in. by 6 ft.; arranged for motor drive; also roller straightener, or gng press for 6x6-in. angles.

Machine Tools, etc.—O'Brien Machinery Co., 107 N. 3d St., Philadelphia, Pa.—Catalogues, price-lists and jobbers' discounts on machine tools, steam and electrical equipment, woodworking machinery and supplies; view to representation.

Machine Tools.—W. J. Alford, 3532 N. 27th St., Birmingham, Ala.—Following new or first-class second-hand machines: Medium size keyseat cutter, Baker Bros. preferred; 28 or 30-in. screw-cutting lathe, about 8 or 9 ft. between centers; 18 or 20-in. lathe, 7 to 8 ft. between centers; shaper, 24 to 28-in. stroke; 36x36x8 or 10-ft. planer; radial drill press, medium size; 24-in. drill press; 30-in. drill press; punch and shear, about 18-in. throat; punch and shear, about 36 to 42-in. throat, very heavy design; complete outfit of pattern shop machinery; air compressor, about 175 ft. free air; several motors, A. C., 2 to 15 H. P., 60 cycle, 110 volts.

Machine Tools, Hardware, etc.—Navy Dept., Bureau Supplies and Accounts, Washington, D. C.—Bids on following: Arbors (lathe, counterbores, drills, etc.), brushes (file, emery wheel dressers, hand drills, etc.), machinists' clamps, and 124 steel measuring tapes, all schedule 9138, delivery Washington; 40 worm-gear chain blocks, 18 direct differential blocks, 900 lin. ft. 36-in. wide brass gauze, and 10,000 hammock rings, schedule 9129, all delivery Boston; machinists' files, schedule 9129 and 9138, delivery Boston and Newport; 1500 lbs. cut copper flathead nails, 45 reams sheet garnet paper, and 1600 lbs. cut copper flathead tacks, all schedule 9129, delivery Norfolk; brass machine screws, schedule 9129, delivery Portsmouth, N. H.; wood, brass and iron screws, schedule 9129, delivery Portsmouth, Norfolk; 4000 screw-drivers and 2000 taper square end wrenches, schedule 9112, delivery Newport, R. I.; taps, dies, etc., schedule 9140, delivery Philadelphia; 744 water-gauge glasses, for boilers, schedule 9130, delivery Boston.

Machinery.—See Cutlery, etc.—Simao Salem.

Merchandise (General).—J. Carreira Junior, Recife, Pernambuco, Brazil.—Interested, view to representation, in merchandise, including following: Ladies' and men's furnishing goods; underwear; medicines; cod-liver oil; linseed oil; paints; glass; salt-peter; sheet glass; window glass; rubber goods; woven cotton, wool and silk goods; kitchen and dining-room furniture of glass; chinaware; porcelain; mirrors; sanitary furnishings, including bathtubs, etc.; automobiles and equipment; iron piping. Send samples where possible.

Metals.—Gaetano, Meroni & Honegger, Milan, Italy.—Interested in following metals (view to representation): Copper and brass in cakes, sheets, rods, seamless tubes; steel in Ingots and sheet bars; cast-iron; pig-iron; zinc and aluminum in every form.

Metal Buildings.—Jas. L. Ballard, 68 W. 71st St., New York.—About 40 or 60 by 20 or 25-ft. metal building; knock-down; suitable for assembling without skilled labor.

Motor (Electric).—Jos. D. Grob, Pasadena, Md.—Prices on electric motor and pump attached for 25-ft. well.

Metal and Woodworking Machinery and Tools.—Ditta Carol Naef di Morini & Bossi, 31 Via A. Manzoni, Milan, Italy.—Interested in general appliances and equipments, including tools, for working metals and woods; view to representation.

FOR the benefit of business concerns, engineers, contractors, machinery manufacturers, dealers and others who find it profitable to follow up daily the industrial, commercial, railroad and financial development of the South and Southwest as published in this Construction Department,

We issue every Business Day in the Year THE DAILY BULLETIN

The construction news as published in the Daily Bulletin is invaluable to all business people who want to keep in daily touch with the organization of business enterprises of all kinds throughout the whole South. Unlimited possibilities for the creation of business, for securing contract work, for the sale of machinery and supplies of all kinds, for bond buyers and others, are to be found through a close following up of the news in the Daily Bulletin.

The Daily Bulletin is an exceptionally desirable advertising medium.

The subscription price is \$25.00 a year. Are you a subscriber to it, or an advertiser in it? If not, you are missing an opportunity for profitable business.

vertical preferred; 35 H. P. automatic steam engine, give cylinder dimensions, manufacturer's name and price; self-supporting stack 54 or 60 in. diam., about 125 ft. high; bricks in carload lots, price delivered on cars Hopewell, Va.; dressed North Carolina stone in carload lots.

Electrical Machinery, etc.—J. R. Keller, Jacksonville, Tex.—150-175 K. W. 2300-2-phase bolted generator.

Electrical Supplies.—Navy Dept., Bureau Supplies and Accounts, Washington, D. C.—Bids on following electrical supplies, schedule 9136, delivery Washington; 20,000 ft. cotton covered lamp cord, 100 taps (side outlet current), 20,000 ft. double conductor telephone wire and 300 high-resistance telephone receivers, schedule 9138.

Engine (Gasoline).—See Pumping Plant—Moulton Water-works.

Engines.—See Electrical Machinery, etc.—City Point Ice Corp.

Engines (Gas) and Compressors.—E. C. D'Yarmett, Red Demon Gasoline Co., Muskogee, Okla.—Prices on following new or good second-hand equipment: 50 H. P. and 200 H. P. gas engines; compressor (ice machine type), 100 ft.-per-min. capacity, 300 lbs.; compressor, 2-stage, 900 cu. ft. capacity for 300 lbs. pressure.

Excavating, Hauling and Spreading.—Navy Dept., Bureau Supplies and Accounts, Washington, D. C.—Bids on 10,000 cu. yds. excavating, hauling and spreading earth, Annapolis, Md., schedule 9116.

Grinding Machines (Tool).—William Wilson, Ensley, Ala.—Tool-grinding machines for lawn mowers, razors, knives and other edged tools.

Hardware.—See Leather, Shoes, Hardware, etc.—Nicolas G. Zacher.

Heaters, etc.—See Boilers, etc.—The Cypress Lumber Co.

Hoist.—Martin J. Lide, Consult. Engr., Birmingham, Ala.—Single drum mine hoist; diam. drum 72 in.; with friction and brake; first or second motion; rope pul 1 3500 lbs.; rope speed about 700 ft.

Hoisting Machinery.—North American Fluor spar & Lead Corp., Smithland, Ky.—To correspond with manufacturers of hoisting machinery, both steam and oil burners.

Lumber.—Navy Dept., Bureau Supplies and Accounts, Washington, D. C.—Bids on 15,000 ft. 1½-in. Louisiana red cypress, delivery Norfolk, and 530,000 ft. sawn timber yellow pine, delivery Brooklyn, schedule 9128.

Lumber.—Northern Iron & Steel Co., Suite 1011 Drexel Bldg., Philadelphia, Pa.—Immediate purchase of oak, hemlock, white pine and yellow pine (not turpentine), f. o. b. cars Norfolk, Newport News or Mobile, Ala.; will furnish specifications and requirements.

Machine Tools.—Pennsylvania Equipment Co., 15th St. and S. Penn Sq., Philadelphia, Pa.—Second hand shear, capacity to shear 1½x1½-in. or ¾x6-in. cold soft steel, or to punch 1-in. hole in a ¾-in. plate, floor space 8 ft. 3 in. by 6 ft.; arranged for motor drive; also roller straightener, or gng press for 6x6-in. angles.

Machine Tools, etc.—O'Brien Machinery Co., 107 N. 3d St., Philadelphia, Pa.—Catalogues, price-lists and jobbers' discounts on machine tools, steam and electrical equipment, woodworking machinery and supplies; view to representation.

Machine Tools.—W. J. Alford, 3532 N. 27th St., Birmingham, Ala.—Following new or first-class second-hand machines: Medium size keyseat cutter, Baker Bros. preferred; 28 or 30-in. screw-cutting lathe, about 8 or 9 ft. between centers; 18 or 20-in. lathe, 7 to 8 ft. between centers; shaper, 24 to 28-in. stroke; 36x36x8 or 10-ft. planer; radial drill press, medium size; 24-in. drill press; 30-in. drill press; punch and shear, about 18-in. throat; punch and shear, about 36 to 42-in. throat, very heavy design; complete outfit of pattern shop machinery; air compressor, about 175 ft. free air; several motors, A. C., 2 to 15 H. P., 60 cycle, 110 volts.

Machine Tools, Hardware, etc.—Navy Dept., Bureau Supplies and Accounts, Washington, D. C.—Bids on following: Arbors (lathe, counterbores, drills, etc.), brushes (file, emery wheel dressers, hand drills, etc.), machinists' clamps, and 124 steel measuring tapes, all schedule 9138, delivery Washington; 40 worm-gear chain blocks, 18 direct differential blocks, 900 lin. ft. 36-in. wide brass gauze, and 10,000 hammock rings, schedule 9129, all delivery Boston; machinists' files, schedule 9129 and 9138, delivery Boston and Newport; 1500 lbs. cut copper flathead nails, 45 reams sheet garnet paper, and 1600 lbs. cut copper flathead tacks, all schedule 9129, delivery Norfolk; brass machine screws, schedule 9129, delivery Portsmouth, N. H.; wood, brass and iron screws, schedule 9129, delivery Portsmouth, Norfolk; 4000 screw-drivers and 2000 taper square end wrenches, schedule 9112, delivery Newport, R. I.; taps, dies, etc., schedule 9140, delivery Philadelphia; 744 water-gauge glasses, for boilers, schedule 9130, delivery Boston.

Machinery.—See Cutlery, etc.—Simao Salem.

Laundry Machinery.—City Point Ice Corp., Alexandria, Va.—Laundry machinery; good second-hand considered.

Leather, Shoes, Hardware, etc.—Nicolas G. Zacher, Alexandria, Egypt.—Interested, view to representation, in shoe leather, shoes, stockings of various kinds, iron building hardware, nails, vices, springs, etc.; state prices free of packing, and, if possible, costs, insurance, freight, etc., to Alexandria.

Lockers (Metal).—Depot Quartermaster, Philadelphia, Pa.—Bids until Jan. 14 to furnish 4600 metal wall lockers.

Lumber.—See Cutlery, etc.—Simao Salem.

Lumber.—See Roofing, etc.—Bureau Supplies and Accounts.

Lumber.—S. Horton Jones, Russell St. and McCarthy Sq., Bathurst, Gambia.—Interested in lumber; view to representation.

Lumber.—City Point Ice Corp., Alexandria, Va.—Dressed North Carolina pine in

[December 23, 1915]

Metals, Tubing, Hardware, etc.—

Panama Canal, F. C. Boggs, Gen. Purchasing Officer, Washington, D. C.—Bids until Jan. 8 to furnish steel, iron, pig-iron, chain, steel cable, wire, horseshoes, toe calks, sheet tin, track frogs, steel and iron castings, manganese-steel dipper lips, track spikes, boat spikes, nails, bolts, rivets, missing links, chain shackles, cable clips, turnbuckles, stovepipe, batbit metal, bronze, brass, copper, copper tubing, brass tubing, pig lead, sheet lead, lead washers, lead pipe, sheet zinc, shovels, taps, pipe tongs, foot bolts, hinges, valves, sanitary fixtures, wagon rims and spokes, manila rope, leather, crayons, silica sand, fire clay, foundry clay, silica grit, calcium chloride, ash soda, pitch, alumina sulphate, white zinc, white lead, lard oil, linseed oil, neat's-foot oil, turpentine substitute, fish oil, paints, and lumber; blanks and general information relating to this circular (No. 998) may be obtained from this office or offices of assistant purchasing agents, 21 State St., New York; 614 Whitney-Central Bldg., New Orleans, and Fort Mason, San Francisco; also from U. S. Engr. offices in Seattle, Los Angeles, Baltimore, Philadelphia, Pittsburgh, Boston, Buffalo, Cleveland, Cincinnati, Chicago, St. Louis, Detroit, Milwaukee, St. Paul, Chattanooga, Louisville, Mobile and Galveston; Commercial Club, Kansas City, Mo.; Chamber of Commerce, Quincy, Ill., and Commercial Club, Tacoma, Wash.

Mining Equipment.—J. H. Dowling, Live Oak, Fla.—Addresses of manufacturers of graphite mining equipment, including crushers and pulverizers.

Mining Machinery.—South East Coal Co., H. Laviers, Mgr., Paintsville, Ky.—Prices on mining machinery.

Nautical Instruments, etc.— Navy Dept., Bureau Supplies and Accounts, Washington, D. C.—Bids on following nautical instruments, etc., schedule 9136, delivery Washington: 200 night binoculars; 200 deck clocks, and keys for same; 2 diving, circular and straight line engines; 100 lenses (objective, for spyglasses); 50 sets sextant mirrors; 100 sets stadiometer mirrors; 100 psychrometers and 50 prs. thermometers for same; 50 Silsbee (parallel) 18-in. rulers.

Novelties, etc.— Logan Loan & Surety Co., Logan, W. Va.—Novelties to include fur caps, gloves, leather pillow tops, pennants, curios, etc.

Oak.—Sellers & Son, Proprs. Brooksville Lumber Co., Brooksville, Fla.—To correspond with manufacturers or quarter-sawed oak suitable for furniture and office fixtures.

Oil Machinery.—Moultrie Chamber of Commerce, John E. Howell, Secy., Moultrie, Ga.—Data on peanut oil manufacture and prices on machinery.

Pad (Furniture) Machinery.—Cleveland Excelsior Co., Cleveland, Tenn.—Addresses of manufacturers of furniture pad machinery.

Pattern Shop Outfit.—See Machine Tools.—W. J. Alford.

Paving.—City Commiss., Tulsa, Okla.—Bids until Dec. 30 at office E. B. Cline, City Auditor, to pave Cameron, Archer, First and Latimer Sts., Lansing, Lawton and Guthrie Aves., etc.; plans and specifications on file with City Auditor.

Paving.—City of Schulenburg, Tex., Gus Russek, Mayor.—Bids on 3 blocks paving with best material suited to climate; would consider creosoted blocks, cement, vitrified brick, etc.

Paving.—Board of Public Works, D. B. McKay, Chmn., Tampa, Fla.—Bids until Dec. 21 to pave with bituminous macadam 15th St., Michigan to 26th Ave., width 20 ft., 6000 sq. yds.; South Dakota Ave., Snow Ave. to Bayshore Blvd., width 29 ft., 5000 sq. yds.; specifications obtainable from City Engr.

Paving Materials, etc.— Baltimore (Md.) Board of Awards, City Hall.—Bids until Dec. 29 to furnish lumber, sand, broken stone, vitrified paving blocks, granite paving blocks, asphalt blocks, sidewalk brick, oils, gasoline, filler gravel, concrete gravel, screen gravel, sheet asphalt and bituminous concrete repairs, coal tar pitch filler, asphalt filler, granite curb circles and creosoted wood blocks, for general purposes in Highways Engr.'s Dept. during 1916; bid for each class of material to be enclosed in separate envelopes; specifications and blank proposal sheets on application; R. M. Cooksey, Highways Engr.

Pipe, etc.— Shand Builders' Supply Co., 615 Hampton St., Columbia, S. C.—Steam

pipe (1 in.) and fittings; new or second-hand. (See Drykiln Equipment.)

Pipe.—Crawford Gas & Oil Co., W. J. Martin, Treas., Van Buren, Ark.—Opens bids about Jan. 10 on 10 ml. 6, 8 and 10-in. piping.

Pipe and Tubing.—Choctaw Natural Gas Co., J. R. Stebbins, Secy., Tulsa, Okla. Will need additional pipe and tubing. (Is building 8 ml. 8-in. and 10 ml. 6-in. line, using 8-in., 6-in. and small lines pipe.)

Piping.—G. A. J. Mallar, 602 Drake Bldg., Easton, Pa.—2000 ft. 10-in. wrought-steel pipe or cast-iron flanged pipe; second-hand.

Piping.—See Cutlery, etc.—Simao Salem.

Porcelain Work.—Fireproof Furniture & Construction Co., Miamisburg, O.—To correspond with manufacturers of porcelain work on sheet steel or with companies offering a process for this work; similar to that of refrigerator manufacturers.

Pulverizers.—See Crushers.—J. H. Dowling.

Pulp (Wood) Machinery.—A. C. Jackson, Jr., Irvington, Ala.—Data on manufacture of wood pulp and prices on the machinery.

Pump.—See Motor.—Jos. D. Groh.

Pumps (Centrifugal).—C. P. Drown, Dougherty, Ga.—Addresses of manufacturers of centrifugal pumps; wants specifications for double centrifugal plant for hydraulic mining; use electric power.

Pumps (Feed).—See Boilers, etc.—The Cypress Lumber Co.

Pumping Plant.—Moulton Water-works, H. C. Dunn, Gen. Mgr., Moulton, Ala.—Pumping outfit (without tank), capacity to deliver 1500 to 2000 gals. water per hour from spring 450 ft., with 2-ft. lift to steel tank, under 100 lbs. pressure; also gasoline engine, and an air pump of 2260 gals. capacity; tank has 2-in. mains; wish either direct connected or belt-driven pump and air compressor; prefer pump for air and water combined. Quote prices f. o. b. cars Hillsboro, Ala.

Punch and Shear.—See Machine Tools, Pennsylvania Equipment Co.

Rails.—Huettel Coal & Coke Co., Norton, Va.—44-in. gauge track; new or good second-hand. (See Locomotive, etc.)

Rails.—Shand Builders' Supply Co., 615 Hampton St., Columbia, S. C.—Carload 16 to 20-lb. steel rails; new or second-hand. (See Drykiln Equipment.)

Railway Equipment.—Hiawasse Valley Ry. Co., S. E. Cover, Prest., Andrews, N. C.—Prices on 60-lb. relay steel, locomotives, cars, etc.; will be in market in spring.

Road Construction.—Tallapoosa County Commiss., Dadeville, Ala.—Bids until Jan. 12 to construct 6 ml. road and bridges from Dadeville to Jackson's Gap; plans, specifications and profiles on file with G. J. Sorrell, Judge of Probate.

Road Construction.—Atlantic County Board Chosen Freeholders, Mays Landing, N. J.—Bids at Courthouse Jan. 1 on 4 ml. 60-ft.-wide paving on Meadow Blvd. between Atlantic City and Pleasantville; Alex. Howard Nelson, Engr., Atlantic City.

Road Construction.—St. Johns County Commiss., I. I. Moody, Chrmn., St. Augustine, Fla.—Bids until Jan. 4 to pave with vitrified brick King St. from San Sebastian bridge to Horn Rd., 1900 ft., 23 ft. wide, with either flushed or raised curbing; blank proposal forms, specifications, etc., from W. Wallace Snow, Clerk Circuit Court, for \$5.

Roofing Paper, etc.—J. R. Keller, Jacksonville, Tex.—12-in. rolls roofing and insulating paper for cold-storage building.

Roofing, etc.—Bureau Supplies and Ac-

counts, Navy Dept., Washington, D. C.—Bids until Jan. 4 for delivering lumber, ready roofing and valves at Navy-yard, Charleston, S. C. Apply for proposals to supervising officer, Navy-yard, Charleston, or to Bureau.

Rope (Wire).—G. A. J. Mallar, Room 602, Drake Bldg., Easton, Pa.—Lot %, % and % steel wire rope; second-hand.

Satchels (Letter Carriers').—Post Office Dept., Washington, D. C.—Bids at office Purchasing Agent until Jan. 5 to furnish during remainder of present fiscal year about 5000 canvas letter carriers' satchels with leather backs; specifications on application to agent.

Sewing Machine.—Southern Sales Co., manufacturers' agent, Newport News, Va.—Machine to stitch medium and heavy leather goods, shoes, etc.; dealers' price.

Sewer Construction.—City of Kenova, W. Va., J. S. Crossen, Mayor.—Bids until

Dec. 23 to construct sewer system; 4190 ft. 24-in., 2470 ft. 32x40-in., 2700 ft. 3x4-ft., 1370 ft. 31 $\frac{1}{2}$ x1 $\frac{1}{2}$ -ft. pipe; plans and specifications on file with J. W. Collins, Recorder.

Sewer Construction.—City of St. Louis, Mo., Room 315, New City Hall, St. Louis, Mo.—Bids until Jan. 7 to construct North Baden public sewer, first section, and sewers in Glaise Creek Sewer Dist. No. 12; plans, specifications, contract form and other information from Prest. Board of Public Service, Room 225, New City Hall.

Sewer Construction.—Dept. Public Finances, Accounting Div., A. G. Ricks, Commr., New Orleans, La.—Bids until Dec. 28 to construct sub-surface drainage in Gravier St. from Haigan Ave. to S. Clark St. and in S. Clark St. from Gravier to Perdido Sts.; plans and specifications on file with City Engr.; blank proposal forms from City Engr.

Shear.—Pennsylvania Equipment Co., Philadelphia, Pa.—Second-hand shear, similar to United Engineering & Foundry Co.'s No. 2 vertical, Illustration No. 12.

Shovels (Steam and Traction).—G. A. J. Mallar, Room 602, Drake Bldg., Easton, Pa.—Standard gauge steam shovel, 2 to 2 $\frac{1}{2}$ -yd. capacity; also traction shovel, % to $\frac{1}{2}$ -yd. capacity; second-hand.

Sprinkler Equipment.—Krakauer, Zork & Moye's Successors, Inc., El Paso, Tex.—Prices on sprinkler equipment for \$50,000.

Stack.—See Electrical Machinery, etc.—City Point Ice Corp.

Steam and Electrical Equipment.—See Machine Tools, etc.—O'Brien Machinery Co.

Stores Equipment.—Krakauer, Zork & Moye's Successors, Inc., El Paso, Tex.—Prices on machinery and hardware house

equipment and spiral or other labor-saving device for handling packages from floor to floor.

Steam-power Plant.—See Electrical Machinery, etc.—City Point Ice Corp.

Steel.—Bureau Supplies and Accounts, Navy Dept., Washington, D. C.—Bids until Jan. 4 for delivering carbon steel at Navy yard. Apply for proposals.

Telephone Installations, etc.—See Electric Light, etc.—Dept. of Justice.

Telephone Equipment.—Bear Hill Mining Co., T. H. Braley, Mgr., Dodd City, Ark.—Prices on telephone equipment.

Tobacco.—S. Horton Jones, Russell & McCarthy Sq., Bathurst, Cambria, interested in tobacco; view to representation.

Tools.—See Chemical Products, Colors, Oils, etc.—T. Campi and Cusso.

Trucks (Kiln).—Shand Builders' Supply Co., 615 Hampton St., Columbia, S. C.—Roller-bearing kiln trucks; new or second-hand. (See Drykiln Equipment.)

Trucks (Platform).—Navy Dept., Bureau Supplies and Accounts, Washington, D. C.—Bids on 12 38x72-in. platform trucks, schedule 9110, delivery Norfolk.

Tractor.—P. G. Forrester, Wauchula, Fla.—Catalogs and prices on tractor road machine for handling cross-ties and lumber through sandy country.

Valves.—See Roofing, etc.—Bureau Supplies and Accounts.

Woodworking Machinery.—See Box Machinery—Woodstock Hardwood & Spool Mfg. Co.

Well-drilling.—Planet Oil Co., Box 81, Blackwell, Okla.—Open well-drilling bids Jan. 5.

Woodworking Machinery.—See Machine Tools, etc.—O'Brien Machinery Co.

RAILROAD CONSTRUCTION

RAILWAYS

Ala., Carrollton.—Bids will be received until about Dec. 22 by the Bell Lumber Co. for grading the first 3 mi. of a 7 mi. lumber railroad. Alabama Engineering Corporation, Masonic Temple, Tuscaloosa, Ala., C. Morton Ayres, Prest., will locate the line and supervise construction.

Ark., Cotter.—List & Gifford Construction Co. of Kansas City, Mo., is reported given contract to lower grades and fill trestles on the White River Division of the St. Louis, Iron Mountain & Southern R. R., Missouri Pacific System. There will be about 23,000 cu. yds. of grading and 3000 cu. yds. of concrete work.

Ark., Yellville.—Survey is begun by R. P. Sharpe for the proposed Yellville, Rush & Mineral Belt Ry., to be built from Yellville via Rush to the mouth of Panther Creek on Buffalo River, 19 mi. J. C. Shepherd of Rush, Ark., is Prest.

Fla., Tampa.—The Pinellas Electric Light & Power Co. contemplates building an interurban electric railway. James Murphy of Tampa and others interested.

Md., Baltimore.—The Curtis Bay R. R. Co., capital \$10,000, proposes to build a line 3 or 4 miles long from Curtis Bay to Hawkins Point, near Baltimore, to serve industries; Incorporators, C. Wilbur Miller, John Lurtz, Philip J. Peters, James F. Gillespie and Ernest B. Miller of Baltimore. Line will connect two plants of the Davison Chemical Co.

Miss., Pascagoula.—W. G. Seaver, Prest. Panama Line Rlys., Pensacola, Fla., says that its incorporation is successor to the Panama Line, Pensacola & Missouri Valley Ry. Present plans contemplate construction on the Gulf Coast & Warrior River Division, which will be 262 mi. from the Gulf coast to the Warrior coal fields. It is also proposed to construct the Clarksdale, Little Rock & Western Ry. from Clarksdale, Miss., to the Arkansas coal fields at or near Clarksville, Ark., 250 mi. Entire line to be from Pensacola to Omaha, Neb., 928 mi. Chairman of the board has not yet been chosen, but other officers, besides Mr. Seaver, are V. P.s, McVea Young of Pensacola, Miss., accounting and treasury; G. B. Chapman of Nashville, Tenn., operation and traffic; C. W. Lacy of Anniston, Ala., engineering and construction; Secy. C. G. Scott of Pascagoula; Treas., Dr. J. A. Tabor of Pascagoula; auditor, W. G. Preston of Philadelphia, Pa.; Ch. Engr., N. C.

Tenn., Chilhowee.—Contract is reported let by the Southern Ry. to Oliver & Hill of Knoxville, Tenn., to grade about 2 $\frac{1}{2}$ mi. of line on the proposed addition to the Bushnell extension, about 12 mi. of which has been graded for several years. Addition will be 14 $\frac{1}{2}$ mi. long. W. H. Wells, Washington, D. C., is Ch. Engr. of Constr.

Tenn., Hollow Rock.—Nashville, Chattanooga & St. Louis Ry. Co. plans to enlarge its yards at Hollow Rock Junction. Grades on the Nashville division will also be reduced. H. McDonald is Chief Engr. at Nashville, Tenn.

Tex., Dallas.—Union Terminal Co. will build 15 miles of terminal tracks in connection with the new Union Station. Contract let. C. H. Cana is Ch. Engr.

Tex., Houston.—The city proposes to build its own railroad yards in connection with the city wharf system, accommodation being

provided for about 500 cars. A tract of 34 acres of land has been bought. Address Ben Campbell, Mayor.

Tex., Fort Stockton.—Pecos Valley R. R. Assm., V. L. Sullivan, Chmn., projects construction of 75 mi. of railroad from Owego in Buena Vista, Imperial and Great Falls to Marfa and Pecos, Tex., which would require two good bridges over the Pecos River, besides some culverts. Route very level.

Tex., Freeport.—W. A. Randle of Freeport will, it is reported, make survey for a proposed railroad from Freeport northward on the western side of the Brazos River.

Tex., Orange.—The Lutcher & Moore Lumber Co. of Orange proposes to build 35 miles of railroad extension and will let contract.

Tex., Roby.—Roby & Northern R. R. has completed and placed in operation its line of 1/2 miles from Roby to North Roby, on the Missouri, Kansas & Texas Ry.

Va., Roanoke.—Norfolk & Western Ry. Co. contemplates building next year second track from Walton to Ripplemead, Va., 8.65 mi. J. E. Crawford, Roanoke, is Chief Engr.

W. Va., Kenova.—Baltimore & Ohio R. R. Co. is reported to have filed maps for its contemplated extension from Kenova to Shelly, Ky., about 100 mi. up the Big Sandy Valley, connecting there with its Sandy Valley & Elkhorn R. R. to Jenkins, Ky. F. L. Stuart is Ch. Engr. at Baltimore, Md.

STREET RAILWAYS

Md., Baltimore.—United Railways & Electric Co. will build an extension from St. Paul St. extended into Guilford, a suburb. Wm. A. House is Pres.

Mo., St. Louis.—St. Louis & Jennings Ry. Co. has begun construction of a 2 1/2-mi. extension along Helen Ave. to Edgewood, a suburb.

Tex., Dallas.—J. H. Power, Pres. Dallas Standard Traction Co., has applied for franchise to build a branch more than half a mile long from the Mount Auburn car line into Parkview Pl. at a cost of about \$10,000.

W. Va., Bluefield.—Appalachian Power Co. will extend its street-car line about 1 mi. to connect with the Princeton-Bluefield electric railway at the eastern end of Princeton Ave.

Western Electric Developments.

New requirements in various branches of electricity's commercial applications have prompted the development of new and the changing of old apparatus to conform to these new needs. The following is a resume of the more important contributions to electrical progress during 1915 by the Western Electric Co., 463 West St., New York: Last year the company placed on the market a well-balanced and light portable electric

[Continued on Page 70.]

organized with George Cameron, Pres. Petersburg; G. C. Gilbert, Secy., Harrisonburg, Va.

Va., Richmond.—Textile Investment Corp., capital \$10,000 to \$550,000, is organized with Andrew D. Christian, Pres.; E. S. Bolen, Secy., and Treas.

Va., Roanoke.—Farmers and Merchants' National Bank has made application for charter; capital \$100,000; incorporators, John W. Penn, R. Q. Mosby, W. R. Hardin, W. L. Becker and T. R. Tillett.

NEW SECURITIES

Ala., Birmingham.—Election is to be held Dec. 27 to vote on \$55,000 5% per cent. bonds for paying outstanding contractors' estimates for public improvements. C. B. Loyd is City Clerk.

Ala., Camden.—\$15,500 water-works, \$4250 street and \$2250 sanitary-sewer 6 per cent. 10-year bonds, dated Jan. 1, 1916, will soon be offered for sale; denominations, \$500 and \$250. E. W. Berry is Mayor.

Ark., Heavener.—\$20,000 6 per cent. 52-year \$1000 denomination electric-light-plant bonds have been purchased at par by R. J. Edwards, Oklahoma City.

Ala., Mobile.—The election to vote on \$150,000 Mobile county school bonds will probably be held Jan. 18. Board of Revenue and Road Com. will have control of sale of bonds should they be voted. (Previously noted.)

Ala., Montgomery.—Election is to be held Jan. 18 to vote on \$300,000 of bonds to pay off floating indebtedness. W. T. Robertson is Mayor.

Fla., Auburndale.—It will probably be 90 days before anything definite is decided regarding proposed road and bond issue. Earl C. May is Gen. Mgr. Auburndale Development Co.

Fla., Bradenton.—Election is to be held in Englewood Dist., Manatee county, to vote on \$75,000 road bonds. Address Chmn. Board County Comms.

Fla., Clearwater.—\$715,000 5 per cent. 30-year Pinellas county road bonds have been validated by County Judge. C. W. Wlecking is Clerk Board County Comms.

Fla., Clearwater.—Elections to vote on school bonds are to be held in Pinellas county as follows: Jan. 17, \$20,000 6 per cent. 25-year St. Petersburg Dist.; Jan. 15, \$1500 Anona Dist. Election is also to be held in Special School Tax Dist. No. 12, Gulfport, to vote on \$1250 6 per cent. 5-year school bonds. Dixie M. Hollis is Supt. Board Public Instruction Pinellas County.

Fla., Jacksonville.—Bids will be received until 3 P. M. Dec. 29 for \$250,000 5 per cent. \$1000 denomination improvement bonds, dated Nov. 1, 1915, maturing Nov. 1, 1945. George M. Powell is Chmn. Board Bond Trustees.

Fla., Fort Myers.—\$125,000 Everglade Dist. and Lee Dist. road and bridge bonds are voted. Address County Comms.

Fla., Gainesville.—\$21,000 paving and sewer bonds recently voted are 15-year 5 per cents, dated Jan. 1, 1916. Christopher Matheson is Mayor.

Fla., Kissimmee.—Election will probably be called to vote on \$250,000 Osceola county road bonds. J. L. Overstreet is Clerk.

Fla., Lake Worth.—\$35,000 6 per cent. water and light bonds have been purchased at 102 by Powell, Garand & Co., Chicago.

Fla., Miami.—\$165,000 Davie Dist., Dade county, road bonds are voted. Address County Comms.

Fla., Miami.—\$450,000 of an issue of \$645,000 5 per cent. municipal railway, ship channel and sanitary sewer bonds have been purchased by Field, Richards & Co. and Wm. H. Compton Co., Cincinnati and St. Louis, at \$457,750. W. B. Moore is City Clerk.

Fla., Miami.—Election is to be held in Dade county to vote on \$125,000 of road, bridge and jail bonds. Address County Comms.

Fla., Miami.—\$275,000 Tamiami Trail, Dade county, bonds voted last October have been validated by County Judge. Steps will soon be taken, it is reported, to place bonds on market. Address S. A. Belcher, Chmn. Board County Comms.

Fla., Okeechobee.—Bids will be received until Jan. 4 by J. W. Hodge, Supt. of Schools, St. Lucie county, for \$40,000 6 per cent. school bonds.

FINANCIAL NEWS

The MANUFACTURERS RECORD invites information about Southern financial matters, items of news about new institutions, dividends declared, securities to be issued, openings for new banks, and general discussions of financial subjects bearing upon Southern matters.

FINANCIAL CORPORATIONS

Ala., Union Springs.—American Bank of Union Springs, capital \$50,000, surplus \$5000, is organized and expects to begin business in about 10 days. Among those interested are F. M. Moseley, A. J. Moseley, C. W. Stewart and others.

Fla., Miami.—The Merchants' Mutual Fire Underwriters of Florida will begin business about Feb. 1; Charles H. Neel, Pres.; John P. Ousting, Secy., and A. Chamberlain, V.-P. and Treas.

Ga., Savannah.—Savannah Securities Co., capital \$60,000, is organized by Rufus G. Peabody and Irvin A. Sims.

La., Lake Charles.—Calcasieu Trust and Savings Bank is to be converted into a National Banking Association, after which it is to merge with its affiliated institution, the Calcasieu National Bank, and operations continue under the style of the "New Calcasieu National Bank," capital \$500,000; surplus \$250,000. The consolidation will be effective about Feb. 1. Frank Roberts will continue as Pres. and E. N. Hazzard, Cashr.

Md., Baldwin.—Farmers' Co-operative State Bank is being organized with \$20,000 capital.

N. C., Charlotte.—People's Bank & Trust Co., recently chartered with \$100,000 capital, has begun business at 14 S. Tryon St.; Dr. Chas. A. Bland, Pres.; W. R. Foreman, V.-P., and W. W. Robards, Cash.

N. C., Rocky Mount.—The Rocky Mount Savings & Trust Co. has filed an amendment to its charter to increase its capital to \$100,000, with surplus of \$25,000, to do a trust business in addition to its savings business. Thos. H. Battle is Pres.; J. C. Branswell, V.-P., and F. P. Spruill, Cashr.

N. C., Wilmington.—Atlantic Trust & Banking Co. and the American National Bank have consolidated under the name of the American Bank & Trust Co.; capital \$300,000. Milton Calder is Pres.

Okl., Taloga.—Dewey County Abstract Co. is organized by J. E. Ruble, Robt. E. Adams, Harry H. Smith and F. G. Delaney.

S. C., St. George.—Farmers' Bank has been granted a commission; capital \$25,000; petitioners: D. C. Pendarvis, O. L. Siegler, O. M. Horne and J. B. Johnson.

Tex., Avoca.—Guaranty State Bank of Avoca has been granted authority to do business; capital \$10,000.

Tex., Buna.—Buna State Bank, capital \$10,000, is authorized to do business. J. L. Mixson, Pres., and D. E. Gunter, Cash.

Tex., Center.—Farmers' State Bank of Center is authorized to do business; capital \$25,000. H. N. Runnels, Pres., and F. C. Powell, Cash. This succeeds the Farmers' National Bank.

Tex., Fentress.—Fentress State Bank is organized with \$10,000 capital. Charlie Tolhurst will be Pres. and Joe M. Sears Cash. Business is expected to begin Feb. 1.

Va., Hopewell.—National Bank of Hopewell approved; capital \$100,000; organizers, Chas. E. Plummer, Petersburg, Va.; W. E. Armstrong, Bernard G. Brown, J. L. Rosenberg, M. A. Finn and others.

Va., Petersburg.—Mount Erin Investment Corporation, capital \$100,000 to \$2,000,000, is

INDUSTRIAL NEWS OF INTEREST

Items of news about industrial, railroad or financial interests, building operations, construction work, municipal improvements, or the sale of machinery or the letting of contracts in the South or Southwest, are invited from our readers whether they are advertisers or subscribers or not. We invite information of this character from readers in the North and West about their Southern business operations, as well as from Southern readers. News of value will be published just as readily when from non-advertisers as from advertisers.

Secures Electrical Contract.

Electrical work in the Science Hall, being erected at Marshall College, Huntington, W. Va., by Longest & Tessier, contractors, Greensboro, N. C., has been awarded to the Constock Electric Co., engineer and contractor, High Point, N. C.

Adds Automobile Accessory Line.

To its comprehensive machinery, mill and plumbing supply business the Bailey-Lebby Company, 182-184 Meeting St., Charleston, S. C., has added a complete line of automobile tires and standard automobile accessories. Mr. Lebby announces that his company will represent the G. & J. brand of tires manufactured by the United States Tire Co. of New York in the State of South Carolina.

Cotton Mill Opportunity.

A desirable cotton mill opportunity is offered in our advertising columns this week. It is located in the Central South on the main line of a trunk railroad in a growing city. It is only a few years old and is being sold to settle an estate. The mill is of 10,000-spindle capacity and has cost more than twice as much as the seller asks for it. Inquiries concerning it may be addressed Cotton Mill, care Manufacturers Record.

Electric Immersion Heater.

A handy device for heating small quantities of water or other liquid quickly in any suitable vessel has been developed by the Simplex Electric Heating Co. of Cambridge, Mass. It is known as the "Quick Hot" immersion heater, and consists of a coil of nickel-plated copper tubing, which is said to eliminate any possibility of rust or oxidizing. A six-foot cord and Hubbell plug with which it is equipped enables it to be attached to any lamp socket.

Machinery Company Organized.

Clarence J. O'Brien and Frank L. O'Brien, formerly with Frank Toomey, Inc., machinery, Philadelphia, Pa., have formed the O'Brien Machinery Co., with office and salesroom at 107 N. 3d St., Philadelphia, where will be handled a general line of machinery, including machine tools, steam and electrical equipment, woodworking machinery and supplies of all kinds, new and used. The company has a warehouse and organization equipped to store and overhaul all machinery before shipment. Catalogues, price-lists and jobbers' discounts on the lines men-

MERCHANTS-MECHANICS NATIONAL BANK

South and Water Sts., BALTIMORE, MD.
DOUGLAS H. THOMAS, President.
JNO. B. RAMSAY, V.-P. and Chm. Bd. of
Dir.
JOHN B. H. DUNNIN, Cashier.
Capital \$2,000,000. Deposits \$21,670,000.
Surplus and Profits \$2,175,000.
Accounts of Banks, Bankers, Corporations and Individuals solicited.
We invite correspondence.

THE NATIONAL EXCHANGE BANK OF BALTIMORE, MD.

Hopkins Place, German and Liberty Sts.
Capital, \$1,500,000.
March 30, 1915, Surplus and Profits,
\$850,000.00.
OFFICERS.
WALDO NEWCOMER, President.
SUMMERFIELD BALDWIN, Vice-Pres.
R. VINTON LANSDALE, Cashier.
C. G. MORGAN, Asst. Cashier.
Accounts of Mercantile Firms, Corporations, Banks, Bankers and Individuals Invited.

WE BUY BONDS

City, County, School and Road, from Municipalities and Contractors.
WRITE
THE PROVIDENT SAVINGS BANK & TRUST CO.
CINCINNATI OHIO

WE BUY County, City, School, Road or Drainage District Bonds.
21 Years' Experience
M. H. CUTTER & CO.
The Rookery CHICAGO

First National Bank
RICHMOND, VIRGINIA
Capital and Surplus - - - - - \$3,000,000
JNO. B. PURCELL, President.
JNO. M. MILLER, JR., Vice-Pres.
W. M. ADDISON, Cashier.

WE BUY BONDS CITY, COUNTY, SCHOOL DISTRICT
CORRESPONDENCE INVITED FROM CONTRACTORS AND OFFICIALS
SIDNEY SPITZER & CO., Spitzer Building, TOLEDO, OHIO
NEW YORK CHICAGO CINCINNATI

POWELL, GARARD & CO.
39 S. La Salle Street
CHICAGO, ILL.
We buy Southern Municipal Bonds
(County, City, School, Road and Drainage District).

JOHN NUVEEN & CO.
First National Bank Building, CHICAGO
We purchase SCHOOL, COUNTY and MUNICIPAL BONDS. Southern Municipal Bonds a Specialty.
Write us if you have bonds for sale.

The Demand for Good Bonds

has increased to such an extent that the supply of sound mortgage securities has been much reduced and prices have risen materially.

With this situation in mind, we invite investors to consider several five per cent. bonds properly secured by first mortgage, which are selling at a discount.

Send for Investment Offering
No. AG-161

A. B. LEACH & CO.
Investment Securities

149 Broadway, New York

Chicago Boston Philadelphia Buffalo
Philadelphia Baltimore London

DELAWARE TRUST COMPANY

WILMINGTON, DELAWARE

INCORPORATING under broad, liberal, safe and stable Delaware laws. A fully equipped department for proper organization and registration of corporations.

BANKING AND TRUST department gives special attention to out-of-town customers' accounts.

TITLE DEPARTMENT examines and guarantees title to realty throughout Delaware.

REALTY DEPARTMENT has sites for manufacturing industries. Modern methods of management of property.

J. ERNEST SMITH, Pres. and Gen. Counselor, WM. G. TAYLOR, Vice-Pres. and Treasurer, HARRY W. DAVIS, Vice-Pres. and Secretary, W. W. PUSEY, 2d Title and Real Estate Officer.

Edwin Warfield, President.

FIDELITY AND DEPOSIT COMPANY OF MARYLAND

Home Office: Baltimore

Total Assets over \$11,000,000.

All Kinds and Classes of Surety Bonds and Casualty Insurance.

Largest and Strongest Surety and Casualty Company in the World.

THE FIRST NATIONAL BANK OF KEY WEST, FLA.

United States Depository and Disbursing Agent.

Capital - - - - - \$100,000
Surplus and Undivided Profits - - 40,000
A general banking business transacted.
Special attention given to collections.

GUNTER & SAWYERS

BUY School, Electric Light, Water, Sewer, Road, Levee and Drainage Bonds.

LITTLE ROCK, ARK. JACKSONVILLE, FLA.

GO SOUTH!
FOR SALE Timber, Coal, Iron, Ranch and Other Properties.
Southern States, West Indies, Mexico.
GEO. B. EDWARDS (Broker)
Tribune Building, NEW YORK, N. Y.
Confidential Negotiations. Investigations. Settlements. Purchases of Property.

W.S. BARSTOW & CO.
INCORPORATED
CONSULTING and CONSTRUCTION ENGINEERS
PUBLIC SERVICE PROPERTIES FINANCED and MANAGED
50 Pine Street New York

BANK STATIONERY

This month we are making a special run on

BANK ENVELOPES

Send for prices.

YOUNG & SELDEN CO.

BANK STATIONERS BALTIMORE, MD.

Lithographing, Printing, Envelopes
Bank Book Makers, Book Binding
Letter Heads, Office Supplies
Steel Die Work

Fla., Pensacola.—Election called for Feb. 1 to vote on \$1,000,000 4% per cent. 40-year Escambia county highway and bridge bonds is postponed until the following November. Address County Comms.

Fla., St. Petersburg.—Election is to be held in Pinellas county Jan. 17 to vote on \$20,000 school-improvement bonds. Address Dist. School Trustees.

Fla., Stuart.—Election is to be ordered to vote on \$33,000 school bonds. Address Board of Education.

Ga., Savannah.—City is not yet prepared to issue the \$40,000 sewer and drainage bonds recently voted. Wallace J. Pierpont is Mayor.

Ky., Harlan.—Bids will be received until Dec. 27 by E. L. Howard, Mayor, for \$7500 6 per cent. 2-20 year sewer bonds, dated Jan. 1, 1916.

Ky., Harlan.—Bids will be received until Dec. 27 by E. L. Howard, Mayor, for \$7500 6 per cent. sewer bonds.

Ky., Lexington.—Bids will be received until noon Dec. 28 for \$100,000 5 per cent. 5-35 year school bonds, dated Dec. 15, 1915, and maturing \$20,000 Dec. 15, 1920, and \$4000 Dec. 15 each year thereafter; denomination \$1000. Address Board of Education, J. O. H. Simmell, Business Director.

Ky., Louisa.—\$40,000 5% per cent. refunding bonds are to be issued by Lawrence county to take up outstanding indebtedness. Address County Comms.

Ky., Providence.—\$20,000 6 per cent. 20-year \$500 denomination light-plant bonds, dated Dec. 1, 1915, are being offered at private sale. R. L. Price is City Clerk.

La., Gilbert.—\$20,000 5 per cent. Ward No. 2 school-building bonds are reported sold. Address Board of Education.

La., Covington.—Election is to be held in January to vote on \$71,000 water-works and sewer bonds. Address The Mayor.

La., Houma.—Bids will be received until noon Jan. 12 for \$50,000 5 per cent. 40-year bonds Road Dist. No. 1, Terrebonne parish; denomination \$500. Address J. C. Dupont, Prest. Police Jury Terrebonne Parish. Further particulars will be found in the advertising columns.

La., Houma.—Bids will be received until noon Jan. 12 for \$100,000 5 per cent. 1-25 year bonds Road Dist. No. 2, Terrebonne parish; denomination \$500. Address J. C. Dupont, Prest. Police Jury Terrebonne Parish. Further particulars will be found in the advertising columns.

La., New Orleans.—\$1,334,000 5 per cent. paving certificates have been purchased by the Equitable Trust Co., New York, at 100.33, or a premium of \$6109.22. A. G. Ricks is Commr. Public Finances.

La., Shreveport.—Bids will be received until 10 A. M. Jan. 5 for \$750,000 of an issue of \$1,200,000 4% per cent. water-works and sewer bonds, dated July 1, 1914, and maturing July 1, 1916 to 1954. Geo. O. Lilley is Secy. Treas.

Md., Leonardtown.—Comms. will offer for sale at 2 P. M. Dec. 31 at Courthouse door \$5000 4% per cent. 1-15 year \$100 and \$500 denomination municipal bonds. Roland B. Duke is Clerk.

Md., Leonardtown.—Comms. will offer for sale at 2 P. M. Dec. 31 at Courthouse door \$5000 4% per cent. 1-15 year \$100 and \$500 denomination municipal bonds. Roland B. Duke is Clerk.

THE TILLOTSON & WOLCOTT CO.

CLEVELAND, OHIO

BUYERS OF COUNTY

SCHOOL AND DRAINAGE BONDS

Correspondence Solicited

Manufacturers and Farm Loans

American manufacturers are making money now. Some of their profits ought to be invested in Farm Loans

We offer mortgages of the choicest character on farms in Georgia and Alabama. These States are leaders in the great campaign of crop diversification that will revolutionize the South

It is inevitable that land values will increase from year to year.

THE SOUTHERN MORTGAGE COMPANY

Capital \$300,000 Established 1870

Atlanta, Georgia

Miss., Gulfport.—Notice is given that city proposes to issue \$125,000 of park bonds. Geo. M. Foot is Mayor and J. W. Bradley Clerk.

Miss., Hazlehurst.—Martinsville Consolidated School Dist., Copiah county, has petitioned the Board of County Supervisors to issue \$5000 school bonds. Address County Comms.

Miss., Jackson.—\$36,000 6 per cent. Living Park property purchase bonds have been voted. L. A. Scott is City Clerk.

Miss., Laurel.—\$3500 6 per cent. Myrick Dist., Jones county, school-building bonds have been declared void on account of technical error. Date for another election not yet set. Dr. D. R. Hunt is Secy. School Dist., R. F. D. No. 1, Laurel.

Miss., Macon.—Bids will be received until noon Jan. 4 for \$22,500 bonds Road Dist. No. 5, Noxubee county. The bonds are balance of a \$40,000 issue, \$17,500 having already been sold. John A. Tyson is Clerk of Board Noxubee County. Further particulars will be found in the advertising columns.

Miss., Meridian.—Election is to be held in Lauderdale county Jan. 4 to vote on \$100,000 bonds for agricultural high school at Marion. Address Board County Supervisors.

Miss., Pittsboro.—Bids will be received until 2 P. M. Jan. 3 for \$20,000 6 per cent. \$500 denomination loan warrants. Address A. J. Sims, Clerk Board Supervisors Calhoun County.

Mo., Durango.—Durango School Dist., La Plata county, will vote Jan. 12 on \$175,000 high-school-building bonds. Address Board of Education.

Mo., Marshall.—Election to vote on \$130,000 4% per cent. 1-20 year Saline county road bonds will be held Jan. 19, and not Feb. 12 as recently reported. S. T. Gray is County Clerk.

Mo., Kansas City.—\$125,000 4 per cent. hospital, \$125,000 fire-protection and \$125,000 station park 4% per cent. bonds have been purchased jointly by G. H. Walker & Co., Boston, and Estabrook & Co., St. Louis, and Estabrook & Co., Boston, at \$48,680.

Mo., Seymour.—Bids will be received until 3 P. M. Jan. 5 by C. W. Sheldon, Clerk Seymour Special Road Dist., for \$30,000 5 per cent. 17-year road bonds. Further particulars will be found in the advertising columns.

Mo., St. Joseph.—\$55,000 4½ per cent. 30 year \$1000 denomination funding bonds have been purchased at \$55,975 by Ford & Porter, St. Joseph.

Mo., St. Joseph.—\$25,000 school district and \$25,000 library 4½ per cent. bonds have been purchased by the Harris Trust & Savings Bank, Chicago, at \$360,920.

Mo., Union.—Bids were received until Dec. 20 for \$7500 5 per cent. 5-10 year \$500 denomination improvement bonds, dated Dec. 1, 1915. Award not stated. Henry C. Vossbrink is City Treas.

Mo., Lees Summit.—Bids will be received until 8 P. M. Jan. 4 by A. C. Miller, City Clerk, for \$28,000 5 per cent. water bonds.

N. C., Concord.—City has for sale \$50,000 6 per cent. and \$50,000 5 per cent. street-improvement bonds. C. A. Isenhour is Mayor.

N. C., Durham.—\$75,000 6 per cent. 30-year school bonds are voted; B. S. Skinner, Mayor.

N. C., Franklin.—\$6000 6 per cent. 20-year Highlands township, Macon county, bonds are voted. Elmer Johnson is Clerk of Board.

N. C., Franklin.—Election is to be held Jan. 10 to vote on \$6000 6 per cent. 20-year bonds School Dist. No. 2, Highlands township, Macon county. Elmer Johnson is Clerk of Board.

N. C., Gastonia.—\$100,000 5 per cent. 30 year school bonds have been purchased by H. T. Holtz & Co., Chicago, for \$104,201 and accrued interest.

N. C., Greensboro.—\$50,000 street and \$75,000 sewer 5 per cent. 30-year \$1000 denomination bonds are voted and will be offered for sale about the middle of January. T. J. Murphy is Mayor.

N. C., Greenville.—\$50,000 5 per cent. 30 year Chicod township, Pitt county, road bonds are voted. S. A. Congleton is Clerk of Board County Comms.

N. C., Henderson.—Bids will be received until 11 o'clock Feb. 7 for \$8000 10-20 year bonds Middlesburg Special School Tax Dist., Vance county, dated Feb. 7, 1916; denomination \$500. E. M. Rollins is Supt. Vance County Public Schools.

N. C., High Point.—Election will probably be called to vote on \$50,000 street-improvement bonds. Address The Mayor.

N. C., Mount Airy.—Bids will be received until noon Jan. 3 by J. B. Sparger, Chrmn. Board Comms., Surry County, for \$80,000 courthouse bonds, interest not to exceed 5 per cent.

N. C., Raleigh.—\$9,821.98 30-year improvement and \$3,916.52 15-year assessment bonds have been purchased at \$294.91 premium by the Citizens' National Bank, Frostburg, Md.

N. C., Sanford.—\$20,000 Sanford Graded School Dist. bonds to be voted on Jan. 25 are 25-year 5 per cents. Ralph Monger is Secy. Board of Education Lee County.

Okl., Bartlesville.—Steps are being taken to call an election to vote on \$75,000 school-building bonds. Address Board of Education.

Okl., Bartlesville.—\$43,500 park and \$6500 sedimentor 5½ per cent. 10-20-year bonds have been purchased at par and accrued interest by Hochler, Cummins & Prudden, Toledo, O.

Okl., Bartlesville.—\$43,500 park and \$6500 sedimentor 5½ per cent. 10-25-year bonds have been purchased at \$3082 premium by Hochler, Cummins & Prudden, Toledo, O.

Okl., Clinton.—\$6000 water-works bonds recently voted are 25-year 6 per cents. It will probably be 60 days before bonds are offered. Harry E. Austin is City Clerk.

Okl., Henryetta.—The \$100,000 water-works bonds recently voted are 25-year 6 per cents. Address The Mayor.

Okl., Mounds.—Election is to be held Dec. 2 to vote on \$100,000 road bonds. Address The Mayor.

Okl., Norman.—\$25,000 Norman township and \$3000 Case township, Cleveland county, and bonds defeated.

Okl., Norman.—\$40,000 Cleveland county 6 per cent. 15-year road-improvement bonds have been purchased by Geo. W. & J. E. Pedrecca; J. B. W. Lillis, County Clerk.

S. C., Charleston.—\$1,500,000 bonds for purchase of Charleston Light & Water Co. defeated. John P. Grace is Mayor.

S. C., Columbia.—Bids will be received until Dec. 28 by G. F. Cooper, City Clerk and Treas., for \$300,000 water and \$200,000 sewer 4½ or 5 per cent. 2-40-year \$1000 denomination bonds.

S. C., Fairlawn.—\$6000 6 per cent. 30-year Fair Bluff School Dist., Columbus county, bonds have been purchased by C. H. Coffin, Chicago, at \$6031. Denomination \$500 and dated July 15, 1915.

S. C., Greenville.—\$950,000 Greenville County highway bonds will probably soon be offered. Address County Comms.

Tenn., Bristol.—Ordinance has been introduced in the City Council providing for the issuing and sale of \$60,000 5 per cent. 30-year central high-school building bonds. Address The Mayor.

Tenn., Johnson City.—Vote on the \$425,000 Washington county road bond election will not be canvassed until the first Monday in January. J. A. Summers is Chrmn. Good Roads Assn.

Tenn., Knoxville.—\$27,889.68 5 per cent. 5-year street-improvement bonds have been purchased by W. W. Willis & Co., Knoxville, at \$417 premium and accrued interest.

Tenn., Knoxville.—Election is to be held Jan. 29 to vote on \$50,000 park bonds; \$150,000 viaduct bonds will also probably be voted on. Address City Comms.; Robert P. Williams, Recorder.

Tenn., Knoxville.—Within the next 60 days city will probably issue \$20,000 street bonds to cover three districts. Robt. D. Williams, Recorder.

Tenn., Maryville.—Bids will be received until 10 A. M. Jan. 5 for \$100,000 5 per cent. Blount county pike bonds. R. P. McReynolds is Chrmn. Blount County Court. Further particulars will be found in the advertising columns.

Tenn., Memphis.—Bids will be received until 2:30 P. M. Jan. 5 (not Jan. 29 as recently reported) for \$986,000 5 per cent. refunding bonds, dated July 1, 1925, and maturing July 1, 1949. Geo. C. Love is Mayor and C. C. Pasby City Clerk.

Tenn., Morristown.—Warrants to cover cost of an \$18,000 school building are to be offered for sale immediately. W. B. Whittaker is Mayor.

Tenn., Morristown.—Hamblen county has sold \$150,000 pike bonds. John Sharp is Engineer.

Tenn., Savannah.—Election will probably be held in Hardin county to vote on \$200,000 railroad-aid bonds. Address County Comms.

Tenn., Waynesboro.—Election is to be held in Wayne county to vote on \$150,000 bonds

in aid of the Tennessee Valley Iron & R. R. Co. Address County Comms.

Tex., Austin.—The Attorney-General has approved the following securities: \$800 5 per cent. 5-20-year Upshur County School Dist. No. 23 bonds.

Tex., Belton.—Election to vote on \$40,000 sewer bonds will be held Jan. 4. A previous election was declared void. Address The Mayor.

Tex., Brownsville.—\$100,000 Brownsville Independent School Dist. bonds are voted. Address Board of Education.

Tex., Corsicana.—\$125,000 5 per cent. 40-year bonds have been purchased by Sweet, Causey, Foster & Co., Denver, at 102.94.

Tex., Fort Worth.—Election to vote on \$50,000 water-works improvement bonds is to be held Jan. 5. Address Mayor Tyra.

Tex., Fredericksburg.—\$300,000 Gillespie county road bonds defeated. Press reports stated bonds had carried.

Tex., Gilmer.—\$75,000 Big Sandy Precinct No. 7, Upshur county, road bonds are voted. Address County Comms.

Tex., Gonzales.—Election is to be held in Road Dist. No. 2, Gonzales county, Feb. 5 to vote on \$75,000 road bonds. Address County Comms.

Tex., Grand Saline.—Election is to be held Jan. 10 to vote on \$16,000 street-improvement bonds. Address The Mayor.

Tex., Hillsboro.—\$25,000 sanitarium bonds will probably be issued. Address The Mayor.

Tex., Johnson.—\$30,000 5 per cent. 10-40-year Blanco county courthouse-construction bonds have been purchased by Spitzer, Rorick & Co., Toledo.

Tex., Lamesa.—Bids will be received until Jan. 3 by Comms.' Court Dawson County for \$12,000 jail and \$43,000 courthouse 5 per cent. bonds. Address Geo. W. Foster, County Judge.

Tex., Lockhart.—Election is to be held in Comms.' Precinct No. 2 and Road Dist. No. 3, Caldwell county, to vote on \$50,000 highway bonds. Address County Comms.

Tex., Lufkin.—Election is to be held in Lufkin Precinct, Lufkin county, Jan. 26 to vote on \$200,000 road bonds. Address County Comms.

Tex., Lubbock.—Bids will be received until noon Dec. 27 by E. H. Haynes, Judge of Lubbock County, for \$100,000 5 per cent. 10-40-year courthouse bonds.

Tex., Marshall.—Election is to be held Jan. 18 to vote on \$60,000 school-building bonds. Address Board of Education.

Tex., Marshall.—\$50,000 5 per cent. 10-40-year viaduct bonds defeated.

Tex., Mexia.—\$24,250 5 per cent. 10-30-year refunding schoolhouse bonds are being offered. G. W. Perkins is City Secy.

Tex., Orange.—\$60,000 Precinct No. 4, Orange county, road bonds were recently defeated, and another election to vote on \$40,000 road and bridge bonds is to be ordered. Address County Comms.

Tex., Port Lavaca.—\$17,000 5 per cent. 5-40-year street-improvement bonds have been purchased by the Commonwealth Trust Co., Houston.

Tex., Port Arthur.—Election is to be held Dec. 28 to vote on \$180,000 drainage, \$25,000 pleasure pier, \$20,000 abattoir and \$9000 incinerator bonds. Address The Mayor.

Tex., Venus.—Election is to be held Jan. 11 to vote on \$10,000 sewer bonds. Address The Mayor.

Tex., Wichita Falls.—Election is to be held Jan. 18 to vote on \$225,000 Wichita county courthouse bonds. A previous election was carried, but declared void on account of technical error. Address County Comms.

Va., Stafford.—Bids will be received until noon Dec. 29 by Board of Supervisors Stafford County for \$10,000 5 per cent. Stafford county refunding bonds, maturing Jan. 1, 1917, to Jan. 1, 1926, inclusive. Geo. W. Herring is Clerk.

W. Va., Morgantown.—\$300,000 Morgan Dist., Monongalia county, road-improvement bonds have been purchased by Harris-Forbes Co., New York.

W. Va., Pineville.—\$550,000 5 per cent. 30-year Wyoming county road-improvement bonds have been purchased at par by State of West Virginia and Powell Garard & Co., Chicago. H. M. Cline is Pres't. County Court.

FINANCIAL NOTES

Wofford Shoals Light & Power Co., Cornelia, Ga., is offering for sale \$20,000 6 per cent. 20-year improvement bonds. J. A. Wells is Secy. and Treas. at Cornelia.

We Offer, Subject to Prior Sale

\$16,000 City of Blue Ridge, Ga., 5s, due 1936. Blue Ridge is the county seat of Fannin County.

We offer these bonds at the attractive price of 97½ and interest to net 5.20%.

W. M. DAVIS COMPANY

Stocks and Bonds

MACON, GEORGIA

We Finance

Electric Light, Power and Street Railway Enterprises With Records of Established Earnings

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Electric Bond and Share Company

(Paid-up Capital and Surplus, \$15,000,000)

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Paulson, Linkroum & Co.

COMMISSION MERCHANTS

NEW YORK

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120 Chestnut Street

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AUDITS SPECIAL EXAMINATIONS SYSTEMATIZING
ALONZO RICHARDSON & CO. CERTIFIED PUBLIC ACCOUNTANTS
EMPIRE BUILDING ATLANTA, GA.
A staff of thoroughly trained and qualified accountants, whose experience enables them to make a critical analysis of books and accounts.

We Buy City, County School and Drainage **BONDS**
FROM MUNICIPALITIES OR CONTRACTORS
We are in position to pay HIGHEST PRICES.
Write or Wire Us Your Offerings
THE NEW FIRST NATIONAL BANK Assets, \$8,000,000 COLUMBUS, O.

BLACK & COMPANY

(WILMER BLACK, C. P. A.)

CERTIFIED PUBLIC ACCOUNTANTS and AUDITORS

All Work under Personal Supervision of Maryland Certified Public Accountant Suits 1208 Garrett Building BALTIMORE, MD.

To Manufacturers and Capitalists

Contemplating the Establishment of Industrial Enterprises

Attention is called to the exceptionally favorable location of

NEWPORT NEWS, VA.

on Hampton Roads, fifteen miles from the sea, deep water, railway and sea transportation facilities unrivaled. Climate salubrious. Apply to

W. B. LIVEZEY, President

OLD DOMINION LAND COMPANY
NEWPORT NEWS, VA.

LOANS MADE TO STATES, CITIES, COUNTIES, ETC.

Also Entire Issues of Bonds Purchased

We prepare and certify as to the genuineness of MUNICIPAL BONDS

Largest Capital and Surplus of Any Financial Institution in Maryland or Any Southern State

Established 1884 Resources \$21,000,000
MERCANTILE TRUST AND DEPOSIT COMPANY
OF BALTIMORE

A. H. S. POST, President

F. G. BOYCE, Jr., Vice-President

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105 South La Salle St. CHICAGO

WALTER WILSON CROSBY

M. Am. Soc. C. E., (formerly State Highway Engineer)

Consulting Engineer

Paving and Roads, Landscape and Park Work, Efficiency and Organization.

1431 Munsey Building BALTIMORE, MD.

P. O. KEILHOLTZ

Consulting Engineer

Formerly Chief Engineer United Railways & Electric Co. and Consolidated Gas, Electric Light & Power Co. of Baltimore. Continental Building BALTIMORE, MD.

CHARLES T. MAIN

Member A. S. M. E.

Textile Mills

WATER POWER DEVELOPMENTS

201 Devonshire Street BOSTON

DAY & ZIMMERMANN

Successors to DODGE, DAY & ZIMMERMANN Engineers

Layout, Design, Construction, Industrial Plants, Examination, Reports and Operation, Public Service Properties.

611 Chestnut Street PHILADELPHIA

HENRY WELLES DURHAM

Consulting Engineer

Highway and Municipal Engineering Work. Specialist in Street Paving.

366 Fifth Avenue NEW YORK

FROEHLING & ROBERTSON

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MECHANICAL

Illustrations and descriptions having news value pertaining to developments in machinery, mechanical devices and inventions will be considered for use in this department.

Double-Duty Advertising.

The theory that a combination of functions under one head results in a saving is apparently believed in by the City Dairy Co. of Toronto, Ontario. Having decided to use an elevated steel water tank in connection with its plant, the company conceived the unique



UNIQUE WATER TOWER OF CITY DAIRY CO., TORONTO, ONT.

idea of having it made to represent a milk bottle, to stand as a permanent and striking advertisement of its business.

The accompanying photograph shows the finished structure as it recently appeared just after its completion by the Canadian-Chicago Bridge and Iron Works, of Bridgeburg, Ontario, and Chicago, Ill. The latter company, which makes a specialty of the manufacture and erection of tanks for water and oil storage, made a special design to meet the wishes of the dairy company, using as a model one of the standard quart milk bottles in use by it.

The large bottle, with a capacity of 25,000 gallons, is 13 feet in diameter, 35 feet 9 inches deep, made of steel plate construction similar to that of the standard tanks of the manufacturer. It is elevated on a four-post tower of standard construction 70 feet in height. The manufacturer of the bottle reproduced the model with an exactness gratifying to the owner. The slight additional cost of this structure over that of a standard tank of equal capacity and height is considered by the purchaser as money well expended.

Lickerin Attachment to Produce Better Yarn from Cheaper Cotton.

The Gordon Double Lickerin Card Attachment, an illustration of which is shown herewith, made for use with any cotton card, is the recent invention of Beirne

Gordon, Jr., superintendent of the Skenandoa Cotton Co., Utica, N. Y. Its purpose is primarily to prepare cotton lint for the cards, so that the different functions of the card may do their work more effectively. The machine is designed to enable the production of as good or better yarn from a cheaper grade of cotton, with the picking process shortened, the cards run at higher speed and the breaker and finisher slowed.

The lap of the cotton is fed to a preparatory lickerin in the usual manner and carried past the mote knives to a revolving brush placed above the lickerin and set about 10/1000 of an inch from the lickerin. The brush, revolving in the same surface direction and at a greater surface speed than the lickerin, removes the lint from the lickerin. A draft of air through the condenser cage from a fan draws the lint from the surface of the brush to the surface of the condenser, which delivers to the feed-roll of the card a loose, fluffy sheet of cotton.

There is no draft of air from the cylinder on the preparatory lickerin, and a section of the lickerin screen is removed and replaced with extra mote knives. With this arrangement seed, sand, leaf, etc., is removed by the mote knives without the removal of any fiber. The resultant waste, even from the highest grade of cotton, resembles very dirty picker droppings and is said to be relatively lower for all grades of cotton.

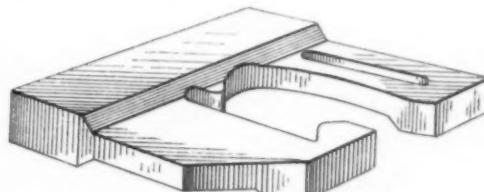
The action of the brush and air thoroughly loosens all the fibers from one another and loosens the remaining trash from the fibers, so that the mote knives under the regular lickerin remove practically all the remaining trash and short fibers. The air also carries away a certain amount of dust, depending on the grade of cotton used, which has a marked tendency to give the yarn a whiter and brighter appearance.

Prominent card manufacturers are said to have arranged to make the machine, and mill men to use it, on a scale that augurs well for its general adoption.

Simplified Bale Tie.

Chas. L. Grunder, manager of the Victoria Compress Co., Victoria, Tex., has invented a bale tie adapted especially to tying cotton bales, the main purpose of which is to provide a simple and efficient buckle to which the band may be easily and rapidly connected, and which prevents lateral projection of the terminals of the band, commonly known as spider bands.

The illustration herewith is a perspective view of the bottom of the buckle, which is constructed of one piece of U-shaped metal. It consists of the body and



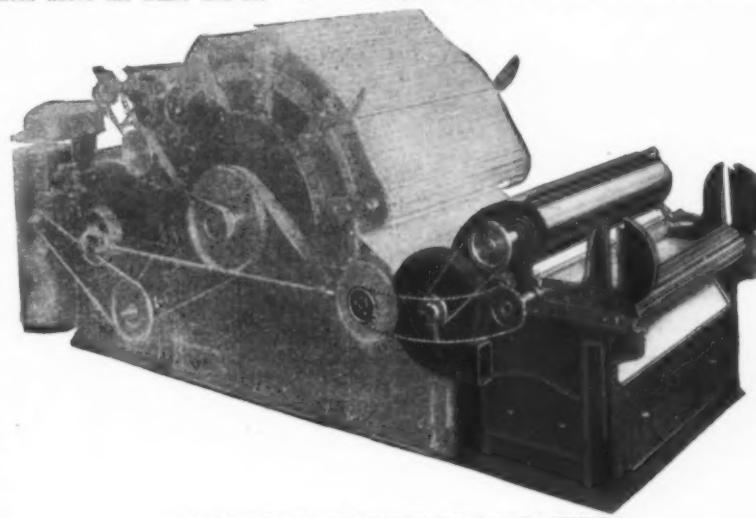
NEW GRUNDER COTTON-BALE TIE.

spaced arms projecting laterally therefrom. The arms upon one side of the body are provided with parallel grooves and an auxiliary transverse slot for the reception of one end of the band, while the other side is made with a recess having undercut side walls producing the projections designed to prevent disengagement of the band in recompressing or the like. The separation of the arms causes an enlarged opening, which facilitates the insertion of the hook on the opposite end of the band.

The body is about twice the thickness of the arms, thus insuring sufficient strength to withstand high

pressure. By providing the enlarged opening with the recess on one side of it, the insertion of the hook is made comparatively easy and the disengagement of the band in case of recompression is eliminated. The grooves which receive the under terminals of the ends of the band prevent the terminals from moving laterally, thereby eliminating the dangerous spider band.

In use the end of the band may either be permanently connected to the arms and riveted, or may have a hook engaged in the slot with its terminal ring within the groove, the side walls of which prevent



GORDON DOUBLE LICKERIN CARD ATTACHMENT.

lateral displacement of the rings, the opposite end of the band being hooked to engage over the arm, having its terminal lying within the groove.

MINING

James River Marl Developments.

Machinery is now being installed by the James River Marl Fertilizer Co., Norfolk, which announced plans in September for marl development at Shore Bay, on the James River. A 550-acre tract will be developed, and it is estimated that the deposits aggregate 5,000,000 tons. The equipment will dig and crush about 2500 tons daily. The marl is red, and is claimed to contain 85 per cent. of lime, with potash predominating in the remaining 15 per cent. Test wells have been driven 30 feet below sea level. The deposit is contained in a hill 40 feet high. The company's capitalization is \$150,000, and its officers, all of Norfolk, are as follows: L. C. W. Page, president; Ernest R. Page, vice-president; George E. Hobbs, secretary, treasurer and general manager.

Arkansas Zinc Ore Development.

A 40-acre zinc property will be developed by the Bear Hill Mining Co. of Dodd City, Ark., about \$30,000 to be invested for machinery providing a daily output of 200 tons of ore. This company has the following officers: J. M. Bergman, president; J. E. Andres, vice-president; W. M. Gallagher, secretary-treasurer; T. H. Braley, manager.

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[Continued from Page 70.]

hostilities, but the whole subject is bound to be reopened after the struggle ends, and in the meantime such books as "I accuse" throw considerable light on the subject from first-hand sources of information.

The author relies for his data almost exclusively upon the official correspondence, letters, telegrams, etc., that were exchanged by the various countries prior to the outbreak. The striking part of the indictment is that he is successful in supporting his accusation that Germany and her ally Austria were directly responsible for the war from their own statements of the case, and what is even more notable, their silence at so many critical junctures when a single word could have temporarily averted hostilities if not altogether avoided them.

German propagandists to the contrary notwithstanding, the author shows pretty clearly that there was a well-defined purpose on the part of the influential German military aristocracy to bring on a conflict

either for selfish personal reasons or because the political power of the Socialists and the well-to-do middle class, naturally favoring peace, was becoming a menace to the military idea of a "place in the sun" for Germany. If it be asked why Germany and Austria should desire war any more than Russia, France or England, it can only be answered that "by their fruits shall ye know them."

The writer offers a constructive program, the basic point of which is a federation of the nations, all nations, held together by mutuality of duty and of interest. This can only be worked out after the war, and while it would obviously not prevent all war, it would make such outbreaks increasingly infrequent.

To those who believe that national preparedness as it is now generally understood is not a vital necessity for the United States, to all those who still feel that great ends may always be gained even under stress of circumstances by diplomatic efforts, to any skeptic who thinks that the

guiding star of nations is noblesse oblige, "J'accuse" is recommended as a suitable tonic.

The book is published by George H. Doran Company, New York. It is well worth while.

The Corrosion of Iron. By L. C. Wilson. Published by the Engineering Magazine, 140-142 Nassau street, New York. Clothbound. 178 pages. Price \$2.

This latest addition to the Works Management Library is said to be the result of an attempt to collect and put in simple form for reading and ready reference some of the most interesting and important facts connected with the corrosion of iron and its protection therefrom. The author's purpose has been to assemble and condense these facts, and he endeavors to give especially practical information concerning processes of materials available for the preservation of iron and steel in either large or small shops. It is only comparatively recently that corrosion has been

studied in a scientific manner and something of its true character ascertained, thereby enabling measures to be taken for its treatment, and it is accordingly hoped by the author that by presenting in his book some of this material in condensed form the student or busy engineer may be helped to a better understanding of the problems involved in the successful preservation of one of our most useful building materials and point the way to their solution. Each subject is treated in detail under chapter headings such as: The rust problem; theories of corrosion, evidences for and against them; protective measures and practical application of the principles discovered; paint materials and the wide application of painting as a protective measure; influence of different elements on the corrosion of iron, with the manufacture of iron summarized to show nature of the problem, and the corrosion of wrought-iron and steel pipe, containing a controversy over their relative merits and a discussion of the processes of manufacture.

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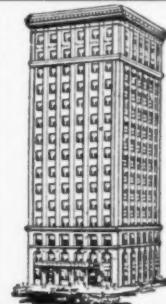
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